WebIntelligence for OLAP User's Guide

WebIntelligence for OLAP Data Sources 6.1

Windows

Part Number

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Contents

Examples

Examples

Maximizing Your Information Resources

Overview

Information, services, and solutions

The Business Objects business intelligence solution is supported by thousands of pages of documentation, available from the products, on the Internet, on CD, and by extensive online help systems and multimedia.

Packed with in-depth technical information, business examples, and advice on troubleshooting and best practices, this comprehensive documentation set provides concrete solutions to your business problems.

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Whatever your Business Objects profile, we can help you quickly access the documentation and other information you need.

Where do I start?

Below are a few suggested starting points; there is a summary of useful web addresses on page 12.

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Do you have a suggestion on how we can improve our documentation? Is there something you particularly like or have found useful? Drop us a line, and we will do our best to ensure that your suggestion is included in the next release of our documentation: documentation@businessobjects.com

NOTE

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Services

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Looking for the best deployment solution for your company?

Business Objects consultants can accompany you from the initial analysis stage to the delivery of your deployment project. Expertise is available in relational and multidimensional databases, in connectivities, database design tools, customized embedding technology, and more.

For more information, contact your local sales office, or contact us at: www.businessobjects.com/services/consulting.htm

Looking for training options?

From traditional classroom learning to targeted e-learning seminars, we can offer a training package to suit your learning needs and preferred learning style. Find more information on the Business Objects Education website: www.businessobjects.com/services/education.htm

Useful addresses at a glance

Address	Content
Business Objects Documentation www.businessobjects.com/services/documentation.htm	Overview of Business Objects documentation. Links to Online Customer Support, Documentation Supply Store, Documentation Roadmap, Tips & Tricks, Documentation mailbox.
Business Objects Documentation mailbox documentation@businessobjects.com	Feedback or questions about documentation.
Product documentation www.businessobjects.com/services/support.htm	The latest Business Objects product documentation, to download or view online.
Business Objects product information www.businessobjects.com	Information about the full range of Business Objects products.
Developer Suite Online www.techsupport.businessobjects.com	Available to customers with a valid maintenance agreement and a Developer Suite license via the Online Customer Support (OCS) website. Provides all the documentation, latest samples, kits and tips.
Knowledge Base (KB) www.techsupport.businessobjects.com	Technical articles, documents, case resolutions. Also, use the **Knowledge Exchange** to learn what challenges other users – both customers and employees – face and what strategies they find to address complex issues. From the Knowledge Base, click the Knowledge Exchange link.
Tips & Tricks www.businessobjects.com/forms/tipsandtricks_login.asp	Practical business-focused examples.

Address	Content
Online Customer Support www.techsupport.businessobjects.com www.businessobjects.com/services	 Starting point for answering questions, resolving issues. Information about registering with **Worldwide Customer Support**.
Business Objects Education Services www.businessobjects.com/services/education.htm	The range of Business Objects training options and modules.
Business Objects Consulting Services www.businessobjects.com/services/consulting.htm	Information on how Business Objects can help maximize your business intelligence investment.

About this guide

This guide describes how to use WebIntelligence for OLAP data sources. It includes instructions for each of the features, as well as basic information about OLAP databases.

Audience

This guide is intended for end users of WebIntelligence for OLAP data sources.

Conventions used in this guide

The conventions used in this guide are described in the table below.

Convention	Indicates
`This font`	Code, SQL syntax, computer programs. For example: `@Select(Country\Country Id)`. This font is also used for all paths, directories, scripts, commands and files for UNIX.
`Some code` ↵ `more code`	Placed at the end of a line of code, the symbol (↵) indicates that the next line should be entered continuously with no carriage return.
$DIRECTORYPATHNAME	The path to a directory in the Business Objects installation/configuration directory structure. For example: • $INSTALLDIR refers to the Business Objects installation directory. • $LOCDATADIR refers to a subdirectory of the BusinessObjects installation directory called locData.

Getting Familiar with OLAP

chapter 1

Overview

This chapter explains some of the basic concepts of multi-dimensional OLAP. If you are already familiar with OLAP terminology, you can skip to the next chapter, Creating and Editing WebIntelligence OLAP Reports on page 23.

This chapter covers the following topics:

- OLAP database terms
- Types of hierarchy

Basic OLAP concepts

A relational database and an OLAP database both contain information about your business. It is generally optimized so that you can quickly insert and update records.

An OLAP database is generally used to analyze data. The results of most business questions are calculated within the cube to provide the data quickly. Typically, an OLAP database is created from the information you have put in a relational database.

WebIntelligence for OLAP provides one interface and one common terminology to access your OLAP data from several different types of OLAP servers. For a more in-depth presentation and comparison of individual OLAP vendor terminologies, see Differences Among OLAP Servers on page 187.

OLAP database terms

Cubes

An *OLAP database* is a collection of cubes. A *cube* is a structure that stores your business data in a multi-dimensional format that makes it easy to analyze. Designed to be departmental, and optimized for performance, a multi-dimensional OLAP cube consists of aggregated, summarized, and pre-calculated data.

Usually each cube contains data that focuses on a specific aspect of the business, such as sales data, financial data, or data for tracking inventory. Each cube is usually designed to address a specific business question. When you create a report, you connect to a cube, and use the data from that cube in your report.

Dimensions and measures

A cube contains dimensions and measures. A *dimension* is a component of a cube; it groups related business data, such as product lines, sales regions, or time. Dimensions become the axis dimension labels for the columns and rows of your reports.

Dimensions have levels. A *level* is a component of a dimension; it specifies the amount of detail for the data. For example, the Time dimension could contain three levels: Year, Quarter, and Month.

Each level above the lowest level contains the aggregated data from the level below. The lowest level contains the most detailed data; the highest level contains the most summarized data.

A cube contains *measures*, which are the numeric data on which you make your comparisons. Measures are often the key performance indicators of your business, with members such as cost, profit, or taxes.

Members

Dimensions contain members. For example, the dimension USA could contain California and Los Angeles. A *member* is a subset of a dimension, and the cube equivalent of a value in a relational column.

Members are organized within a dimension by levels. For example, the Geography dimension typically has the levels: Country, State/Province, and City.

Members at the lowest level are aggregated to members at higher levels. For example, the value of California is an aggregate of Los Angeles, San Francisco, and so on.

A geography dimension might have these levels and members:

Level	Members
Regions	Asia, Europe, North America, South America
Countries	Brazil, Canada, China, France, Germany, India, USA
States/ Provinces	California, Florida, Kashmir, Ontario, Yunnan
Cities	Beijing, Berlin, Ottawa, San Francisco, São Paulo

Children

All members, except those at the lowest level, can have children. *Children* are the members on the next level below that are aggregated to obtain the value for a specific member.

In the table above, the children of Europe are all the countries in Europe. The children of Canada are all the provinces in Canada. The children of Yunnan are all the cities in Yunnan Province.

Parents

All members, except those at the highest level, can have parents. *Parents* are the members one level above that use a selected member to obtain part of their value.

In the table above, USA is the parent of California and Florida. The value of USA is the aggregation of those two states.

Siblings

Some members can have siblings. *Siblings* are members at the same level in a given dimension who share the same parent. Sibling data is aggregated to obtain the value of a parent.

In the previous table, California and Florida are siblings because they share the same parent: USA. Similarly, Canada and USA are siblings of North America.

Descendants

All members, except those at the lowest level in a given dimension, can have descendants. *Descendants* are the members on all the levels below that are aggregated to obtain the value for a specific member.

In the previous table, the descendants of North America are all the countries, states/provinces, and cities in North America: Canada and USA in Countries; California, Florida, and Ontario in States/Provinces; Ottawa and San Francisco in Cities.

Ancestors

All members, except those at the highest level in a given dimension, can have ancestors. Ancestors are the members on all the levels above a selected member. Ancestor data is aggregated to obtain the value of a member on a level (or levels) above.

In the previous table, the ancestors of Florida are USA and North America. The ancestors of Ottawa are Ontario, Canada, and North America.

Aggregated data

Aggregated data is usually, although not always, the sum of the data from the lower levels.

EXAMPLE

Aggregated data that is the sum of the lower levels

You are viewing inventory levels for a particular product across all the geographic regions in which your company operates its retail stores. The highest level contains data for all of North America. The lowest level contains data for each store. In this case, the value for North America is the sum of the values for the lower levels.

EXAMPLE

Aggregated data that is *not* the sum of the lower levels

You are viewing expense information for your company. The data for personnel expenses includes the average salary paid for each type of job. The highest level contains company wide information, the lowest level contains data for each department in each location. In this case, the value for the entire company is not the sum of the values for the lower levels. The averages must be re-calculated for each level.

Axes

OLAP reports all contain a row axis, a column axis, and a filter axis. The dimensions on the row axis appear on the rows in the report. The dimensions on the column axis appear on the columns in the report.

The filter axis does not appear on the report, but the dimensions on the filter axis can affect the contents of the report. For example, you can add a member to a dimension in the Query Panel without moving that dimension to the report grid. Even though that added dimension does not appear on the report grid, your report data changes to reflect the filter on that member.

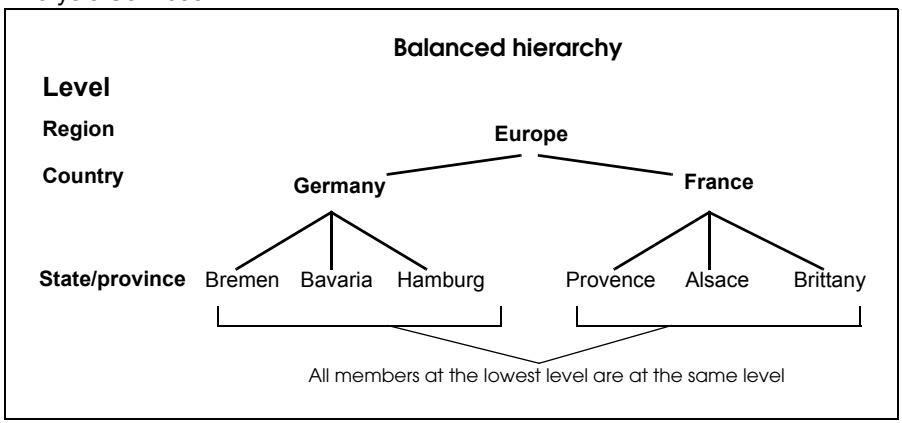
By definition, all dimensions that are not on the row axis or the column axis are on the filter axis.

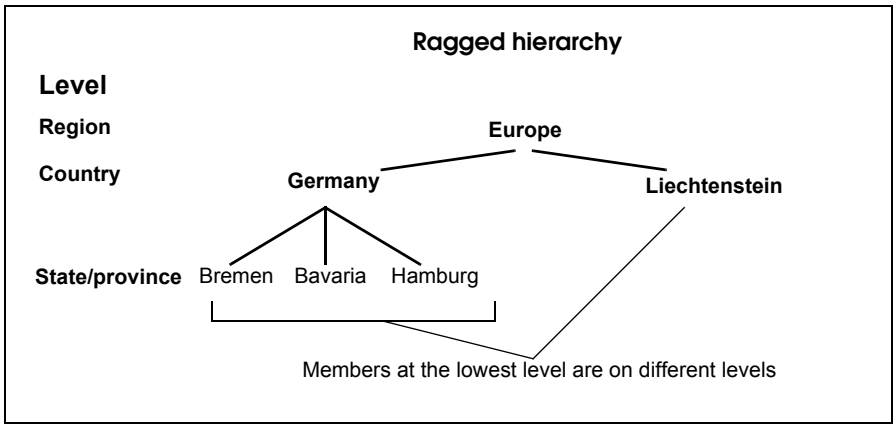
Dimensions can be nested on either the rows or columns. A *nested dimension* is one that is grouped with another dimension on a row or column.

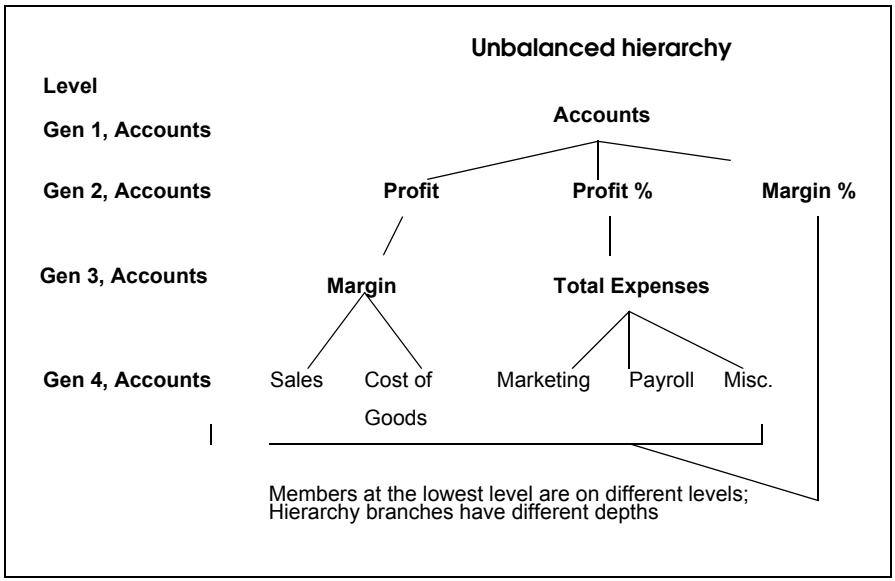
Types of hierarchy

All the levels of a dimension are referred to as a *hierarchy*. A hierarchy can be either balanced, ragged, or unbalanced.

In a balanced hierarchy all the members at the lowest level are on the same level. In a ragged hierarchy the members at the lowest level are on different levels. And in an unbalanced hierarchy, each branch of the hierarchy can have a different depth (number of members). The unbalanced structure differs from a ragged hierarchy, which just has missing members for a level, as shown in the last two diagrams. Dimensions can optionally have more than one *hierarchy* of levels and members per dimension. This is the case, for example, for Microsoft SQL Server Analysis Services.






Unbalanced hierarchy
Level
Gen 1, Accounts
Gen 2, Accounts
Gen 3, Accounts
Gen 4, Accounts
Accounts
Profit
Profit %
Margin %
Margin
Total Expenses
Sales
Cost of Goods
Marketing
Payroll
Misc.
Members at the lowest level are on different levels;
Hierarchy branches have different depths

Creating and Editing WebIntelligence OLAP Reports

chapter 2

Overview

This chapter describes the fundamentals of working with WebIntelligence OLAP reports. There is information and examples to help you build on and modify the report using the default settings or by maximizing the options depending on your OLAP provider.Topics covered are:

- The WebIntelligence OLAP environment
- Opening an existing report
- Opening reports with prompts
- Creating new reports
- Selecting report data
- Member filtering
- Level filtering
- Dynamic Time Series
- Viewing reports with Page Axis
- Changing the report view
- Getting information about your report
- Saving and sharing your report
- Printing your report

It begins by showing you how to open an existing OLAP report, then how to create a new report from your OLAP data sources.

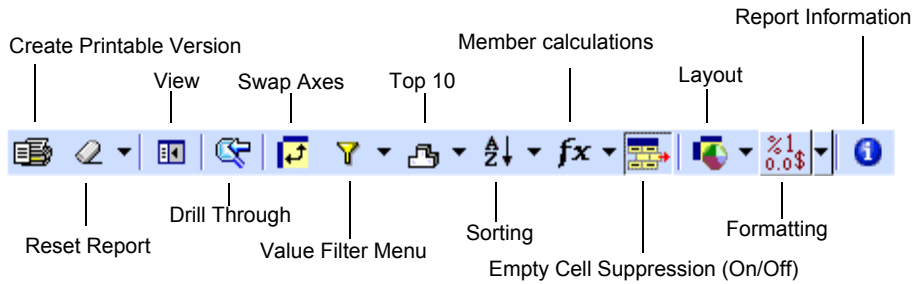
The WebIntelligence OLAP environment

With WebIntelligence for OLAP data sources, you can create reports, or open existing WebIntelligence OLAP reports, to analyze data in any number of ways. Reports are dynamically linked to the data source , and can be modified by using features such as drilling, swapping axes, sorting, ranking, and value filtering.

Optimizing the workspace

Toolbar

The WebIntelligence for OLAP data sources toolbar provides the following options:



Toolbar option	Description
Create Printable Version	Opens the print dialog box.
Reset Report	Abandons any changes you made during the current session.
View	Displays the view options.
Drill Through	Opens the universal drill through tool.
Swap Access	Swaps the rows for the columns in the report grid.
Value Filter Menu	Displays the filter options.
Top 10	Displays the ranking options.
Sorting	Displays the sorting options.
Member Calculations	Displays the member calculation options or performs the default calculation for the selected members in the report.

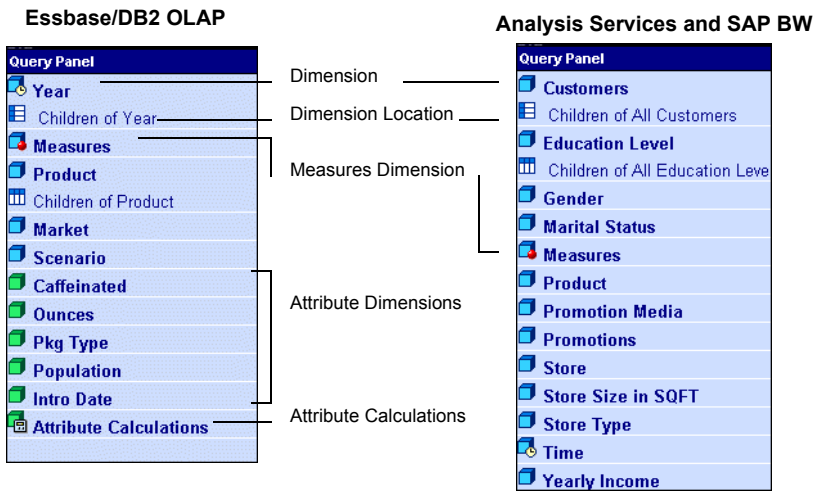
Toolbar option	Description
Empty Cell Suppression	Turns the empty cell suppression on or off.
Layout	Displays the layout options.
Formatting	Displays the format options.
Report Information	Displays the report information.

Query Panel

The Query Panel contains the dimensions, measures, and other data objects you analyze in your WebIntelligence OLAP reports. From the Query Panel, you:

- drag and drop dimensions onto the report grid.
- click dimensions to select members and levels from a dialog box.

The Query Panel displays icons showing the location of dimensions on rows and columns in the report. When you include members in your report, the name of each member you select appears in the Query Panel below the name of the dimension to which it belongs:

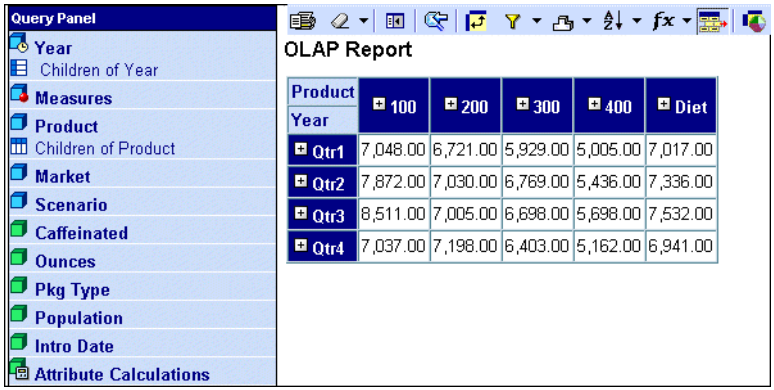


There are several types of dimensions. Measure, attribute, and time dimensions display here.

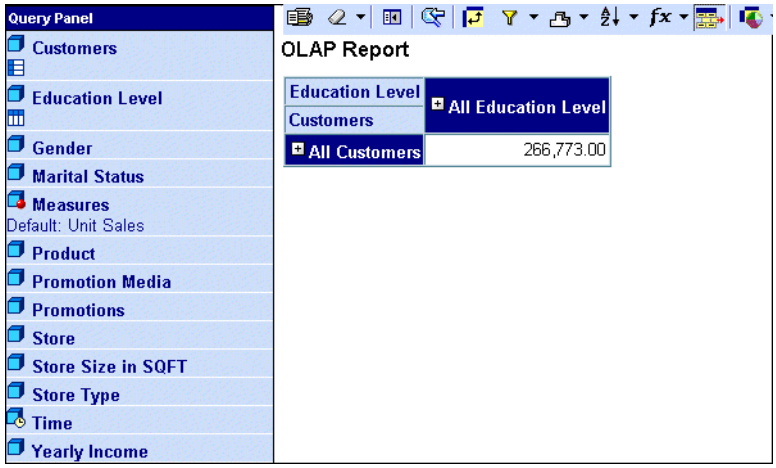
Report grid

The report grid is where you manipulate and analyze your report data. You drag and drop dimensions from the Query Panel onto the report grid. To accommodate large reports, vertical and/or horizontal scroll bars automatically appear when the report becomes larger than your screen.

Default report for Essbase/DB2 OLAP server



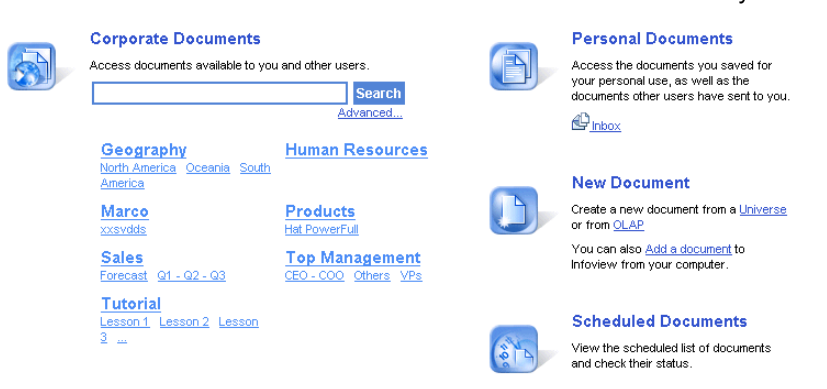
Default report for Analysis Services and SAP BW servers



Opening an existing report

You access existing reports via the InfoView home page. It displays three document list names, as shown below:

- Corporate Documents: those documents that you are allowed to access in the corporate repository
- Personal Documents: those documents that you have saved for your own personal use
- Inbox Documents: those documents that other users have sent you



Opening WebIntelligence OLAP reports

You open WebIntelligence OLAP reports from document lists in InfoView.

▶ Opening a WebIntelligence report

To open a WebIntelligence OLAP report:

1. From the InfoView home page, select the document list that contains the report you want to access:

2. Click the name of the document list that you want to access.

   A document list appears. The WebIntelligence OLAP report icon indicates the link is a WebIntelligence OLAP report.
3. Click the WebIntelligence OLAP report name you want to open.
4. Depending on your security settings, you be prompted to enter your user name and password to view the selected report.

   The selected report displays.

Opening reports with prompts

Your report may contain prompts. Before you can view the report, you need to select from the criteria in the prompts.

Opening reports with SAP BW prompts

SAP BW cube administrators can create variables for certain reports. WebIntelligence prompts you to define these variables when you open the report. For example, you may have to choose one or several members from the Time dimension. When WebIntelligence displays the report, you see data for only these members.

Administrators create variables to decrease the time it takes for WebIntelligence to return data. WebIntelligence retrieves only the data that you want to see, thereby avoiding the need to filter the data at later time.

NOTE

You cannot create variables in a report. Only SAP BW cube administrators can create variables. See your administrator for more information.

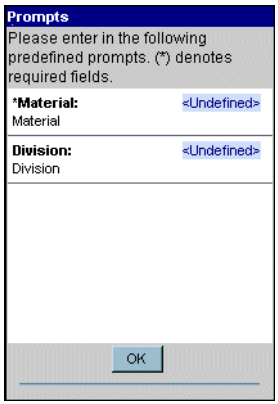
Administrators can prompt you to define mandatory and optional variables. You must define mandatory variables for WebIntelligence to open the report. You do not have to define optional variables to open a report; however, defining the optional variables help limit the time it takes for WebIntelligence to return data.

Defining variables in SAP BW prompts

To define variables when WebIntelligence prompts you:

1. Open a WebIntelligence OLAP document.

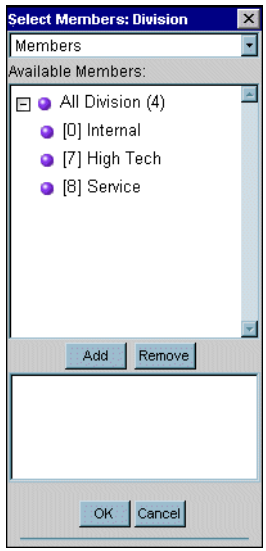
   The Prompt dialog box appears, displaying the dimensions in which you must select members. Mandatory prompts are preceded by an asterisk:



2. To the right of the dimension for which you need to select a member, click the hyperlink **<undefined>**.

   Do this for each mandatory prompt, and any optional prompts you want to define.

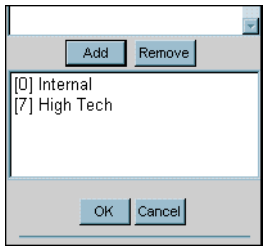
The Select Members dialog box appears:



3. Select the member(s) you want:

If WebIntelligence prompts you	Select
for a single member	the member or level you want, and click **Add**.
for multiple members	one or more members or levels, and click **Add**.
for a range of members	select the member from the level you want to start the range, and click **Add**. Then select the member from the level you want to end the range, and click **Add**.

The member(s) you select appear in the lower pane:



4. Click **OK**.
   WebIntelligence displays a report grid with the data for the members you selected.

Changing SAP BW variables

After WebIntelligence has opened a report for which you have defined variables, you can then change those variables to see new data. For example, you may have chosen to see data for 2002, but want to see data for 2001.

▶ Redefining variables in SAP BW

To change the definition of a variable:

1. Click the **Re-Execute** button in the toobar.
   The Prompts dialog box appears.

NOTE

This button appears only in an SAP BW report.

2. Follows steps 2-4 in the preceding procedure, Defining variables in SAP BW prompts on page 31.

Creating new reports

You have the option to create new reports once you are logged in to InfoView. You use InfoView to access WebIntelligence for OLAP. As with universes in WebIntelligence, you might have access to more than one source of OLAP data. If you are an administrator or have been given the rights, you may create new OLAP database connections.

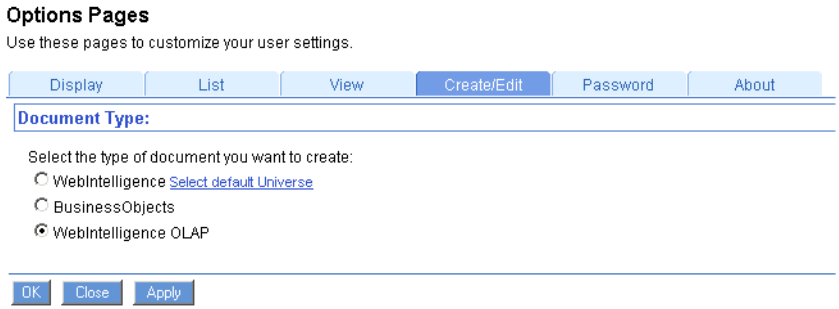
Choosing a data source

You choose which data source you want to access in InfoView.

Specifying a data source

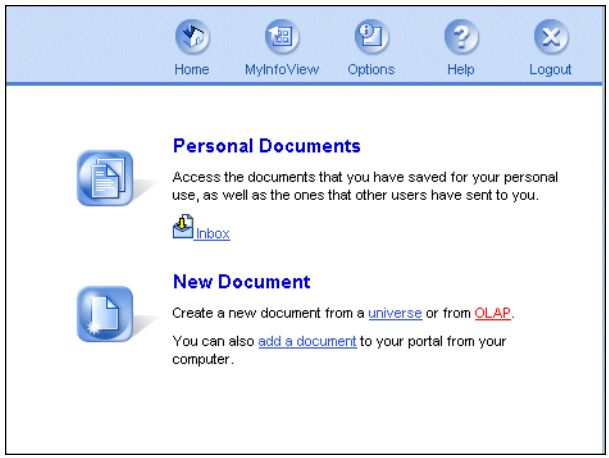
To specify which data to use for your report:

1. Log into InfoView.
2. Click the **Options** button in the title bar.
3. Click the **Create/Edit** tab.
4. Click the **WebIntelligence OLAP** option under Document Type.

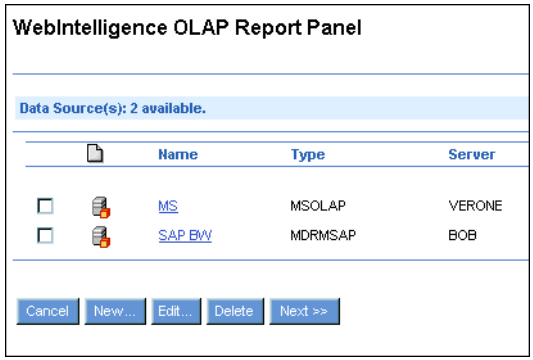


5. Click **OK** to apply and save your changes.
6. Click **Home** to go back to your home page.

7. To create a new document using an OLAP data source, click **OLAP** under New Documents:



A list of available connections appears. Each connection also shows the name of the provider for the OLAP server and the name of the server:

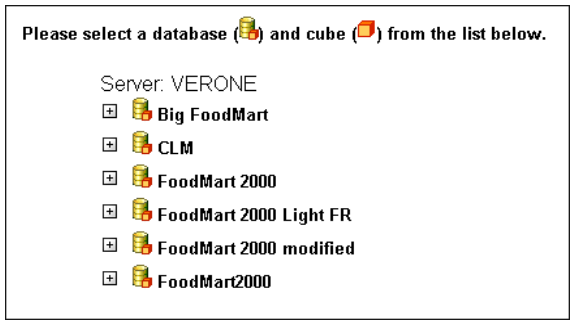


NOTE

Notice the name of the provider for the connection you select. Different providers allow you to manipulate the data in different ways. These differences are described later in this guide, but you will need to know the provider for the server you are using.

Provider name as displayed	Name used in this guide
MSOLAP	Microsoft SQL Server Analysis Services (SSAS)
MDRMSAP	SAP BW
Essbase	Essbase/DB2 OLAP

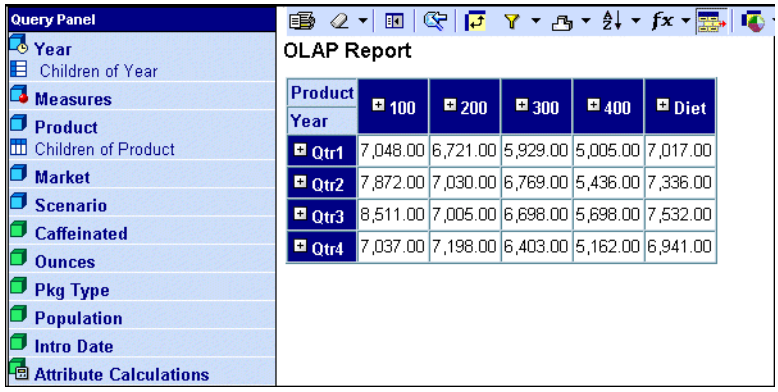
8. Click a connection to display a list of the databases and cubes that are available to you on that server:



9. If you are prompted for them, enter your OLAP user name, OLAP password, OLAP client ID, and the code for the language for the OLAP interface. See your administrator if you need these.
10. Choose a database by clicking the plus sign (+) next to it.

    A list of available cubes appears under the database.
11. Select a cube within that database by clicking it:

A default OLAP report appears:



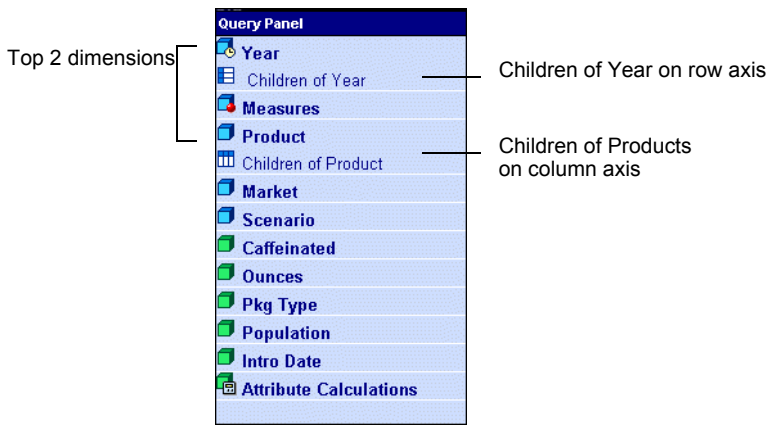
Selecting report data

You begin to analyze report data either by opening an existing report, or by using or modifying a new default report.

Analyzing a default report

When you begin your session, your OLAP report workspace displays a default report. This default report contains the top two dimensions in the cube, with the exception of the Measures dimension, that display in the Query Panel. The children of the top member of each of these two dimensions are also added to the report.

The default report also contains the top member of the Measures dimension. The Query Panel indicates the name and axis location of the dimensions and measure contained in the default report.



NOTE

If you are working with an Essbase/DB2 OLAP Server, the default report contains the top two dimensions displayed in the Query Panel, with the exception of measure and attribute dimensions. The children of these top two dimensions are also added to the report.

You can either use the default report as it displays, or modify the report content using features such as drilling, swapping axes, ranking, sorting, and dragging and dropping dimensions.

Displaying report data

You have several options for displaying report data in the report grid area. You can display report data as a:

- grid
- chart
- grid and chart

The grid-only report display is the default display. You can transform grid data into chart form, or display the same data in both grid and chart form on your screen by selecting options on the Layout menu. For more information, see Working with Charts on page 73.

Selecting dimensions

Dimensions organize your data based on specific business criteria. For example, the Product dimension typically includes information on product categories, product lines, brand names, and so on.

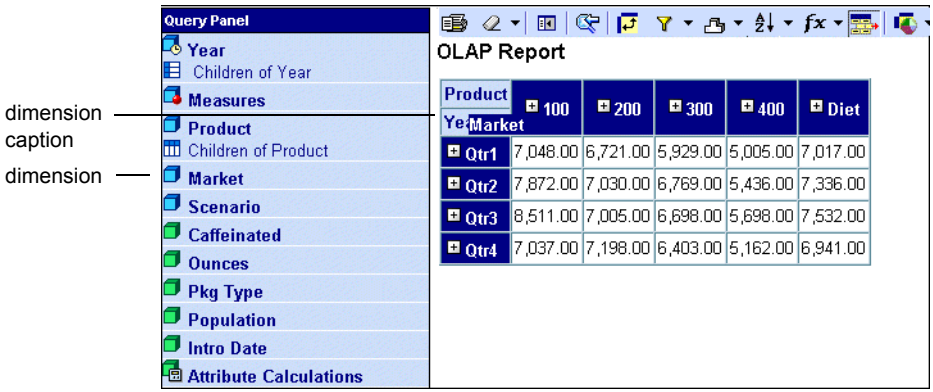
You can add dimensions from the Query Panel to modify a default or existing report. When you drag and drop a dimension on a row in the report, the dimension is added to the right of where you dropped it. If dropped on a column, the dimension is added below where you dropped it.

Adding dimensions

To add a dimension to your report, either:

- drag a dimension onto a caption in the report:

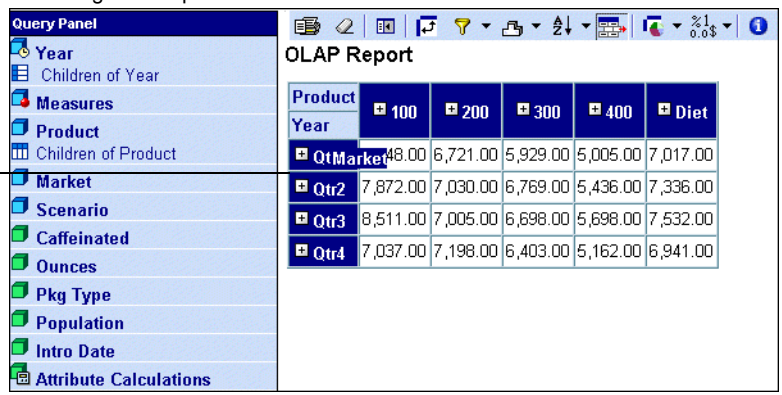
Drag and drop a dimension onto a dimension caption



- drop a dimension onto a member from a particular dimension:

Drag and drop a dimension onto a member

Drag Market to the member



Depending on where you dropped it, the dimension appears on either a row or a column in your report. The name of the dimension appears as an axis dimension label. The Query Panel displays an icon for the added dimension, and the name of the added dimension appears in the report description.

Nested dimensions

You can position more than one dimension on rows and columns in your report. Placing multiple dimensions on a report axis is referred to as *nesting dimensions.*

	Product	100	200	300	400	Diet
Year	Market					
Qtr1	Market	7,048.00	6,721.00	5,929.00	5,005.00	7,017.00
Qtr2		7,872.00	7,030.00	6,769.00	5,436.00	7,336.00
Qtr3		8,511.00	7,005.00	6,698.00	5,698.00	7,532.00
Qtr4		7,037.00	7,198.00	6,403.00	5,162.00	6,941.00

Including measures

Measures appear in the body of your report, and are the numbers on which you make your comparisons.

Adding measures to reports using an Essbase/DB2 OLAP server

If you are using an Essbase/DB2 OLAP server, Measures is another dimension, which can have a full dimensional hierarchy. You can add multiple measures to reports using the Select Members dialog box.

If you select only one measure, all the data is filtered according to that measure. The name of the measure appears in the Query Panel, but does not appear in your report.

If you select more than one measure, the names of the measures appear in your report. If several dimensions are selected for the columns, the measures will be the innermost level, that is to say the level closest to the data in the report.

Adding measures to reports using an Analysis Services or SAP BW server

Analysis Services and SAP BW servers do not consider measures as dimensions. Instead, measures are a collection of members within a single level. Measures are called key figures in SAP BW.

If you select only one measure, all the data is filtered according to that measure. The name of the measure appears in the Query Panel, but does not appear in your report.

To add more than one measure to a report using an Analysis Services or SAP BW server:

1. Move the Measures dimension to a row or to a column in your report.
2. In the Query Panel, select the Measures dimension.

   The Select Members dialog box opens.
3. From the list box, add the appropriate measures to your report.
4. Click **OK**.

   Your report displays the name of and the figures corresponding to each of the Measures you added to the report. The Query Panel displays the names of the added measures.

NOTE

For a measure name to appear in your report, you must move the Measures dimension to either a row or column in the report grid.

Using member search

The search button allows you to locate an individual member or group of members that match the search string that you enter. The search is based on non-case sensitive string recognition of the member's caption.

You can access the search for query member from the Select Members dialog box, both the Members and Levels view.

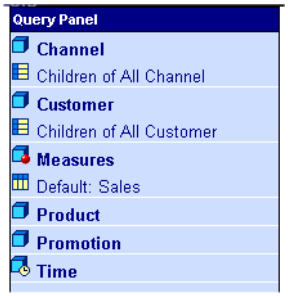
NOTE

The search mechanism first retrieves the metadata then searches on the retrieved members using a caching service. Subsequent searches on the same scope may take less time because the first search results are in the cache.

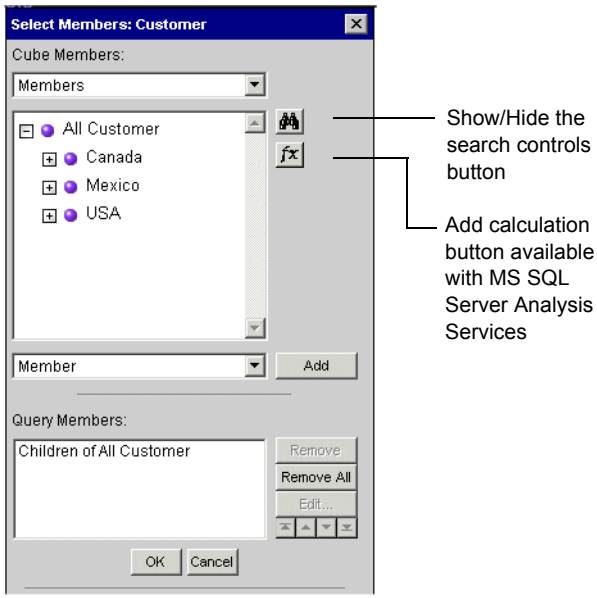
How to search for members

To search for a member or group of members, you need to access the Select Members dialog box.

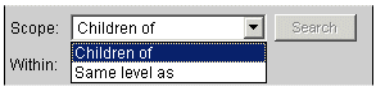
1. Click on any member in the Query Panel to access the Select Members dialog box.



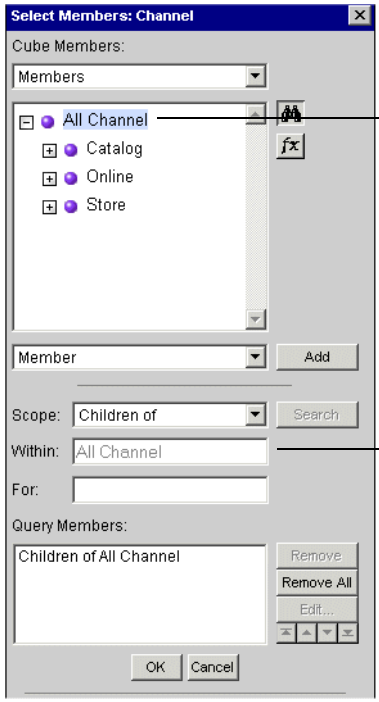
The Member Select dialog box appears.



2. Click **Show/Hide the search controls** to display the Search section of the dialog box.
3. Click the Scope of your search from the drop-down list box.



4. Click the member that you want to search.
   The member appears in the Query Members box.



   The member name appears in the Within box under Scope.

NOTE

If you make a mistake, you can remove the incorrect query members by clicking the member then clicking Remove. If you want to remove all members then click Remove All.

5. Enter your search text in the For text box.
   Use wild cards and or asterisks to enlarge the search criteria if you are not sure of the exact spelling.

EXAMPLE

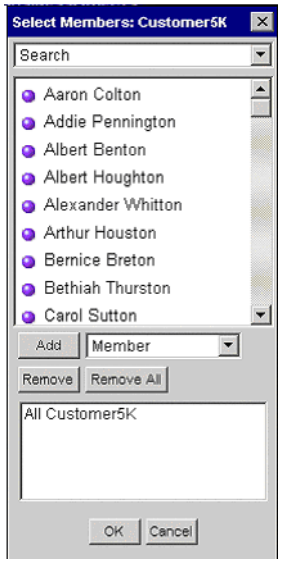
Using wild cards in your member search criteria

For example:

Enter	To return results from
*ton	all captions ending with ton
ton*	all captions beginning with ton
ton	all captions containing ton
ton	all captions where ton is in the middle of the caption. This can even apply if the result is more than one word, such as An**ton** Colton.

6. Either:
   Click **OK** to execute the search.
   Click **Cancel** to close the Member Select dialog box.

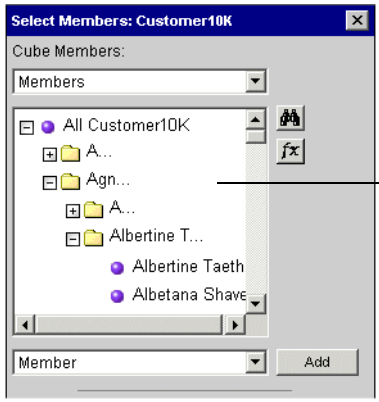
7. The results display sorted in the Member Select dialog box.



NOTE

There is a display limit for large dimensions. In order to speed up the display and caching, large dimensions are split up into more manageable groups. Auto Grouping divides the members and displays folders that group the first letters of the first group and the first letters of the last group. You can browse more quickly to the members you are searching and display the results more quickly. For example, a dimension with 100 000 members is divided into 50 items that creates

2000 members per group. Additional sub-groups are created until the number of members per group is less than the number of items at a time. So the 2000 members per group are divided again into sub-groups of 50 or less.



Large members are grouped to improve display speed and caching

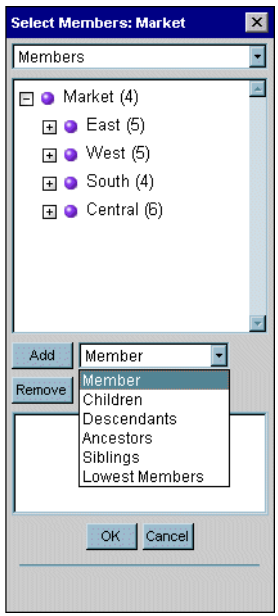
For more information on how to manage these groups, see Member filtering on page 48.

Member filtering

Members are values of a dimension. When you select members from a particular dimension, you are in effect filtering your report to return only the data that pertains to the members selected. You can filter dimensions displayed in the report. You can also filter dimensions *without* displaying the filtered dimension in the report. The report values are still filtered.

For example, if you select only certain members, such as Paris, New York, and London, and move the dimension to a row, you will only see these specific members for the dimension. Likewise, if you create a member filter for Single on the dimension Marital Status without including the Marital Status dimension in the report grid or chart, your report only includes data for single people. Data for anyone with another marital status is filtered out.

You do not have to filter your report on specific members in a dimension. Instead, you can filter values based on a level within a dimension.



Include members from the same dimension hierarchy

You can include values for the Children, Descendants, Ancestors, Siblings, and/or Lowest Members of the same dimension hierarchy. By default, the member filter is restricted to the member selected. For more information on the different levels within dimension, see Dimensions and measures on page 17.

Filtering members on an Essbase/DB2 OLAP server

Essbase/DB2 OLAP servers do not allow you to filter on multiple members. If you select multiple members for a dimension, those members are added to the outermost row of the report.

Filtering members on an SAP BW server

On an SAP BW server, you see only two levels. The top level is "All." The second level contains every member. This is the default hierarchy. No alternate hierarchies are available. Each member on every level of the alternate hierarchies appear on the second level of the default hierarchy.

Adding member filters

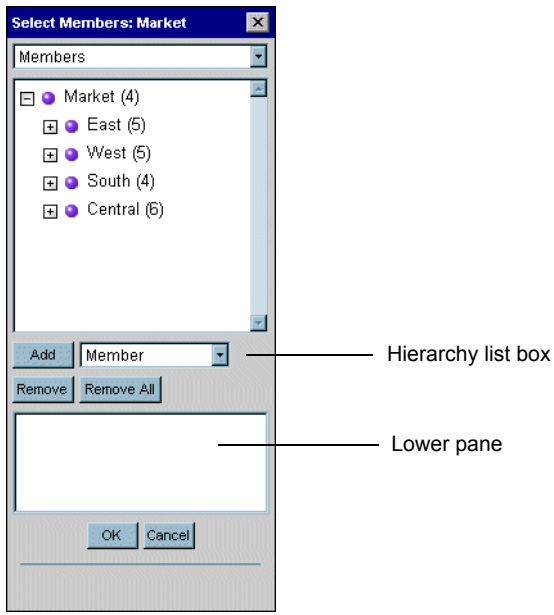
Adding a member to your report filters the report data by that member. You can add a member with or without including data for another member of the same hierarchy. For example, you could include the children or descendants of that member in the same filter.

Adding a member filter without additional data

To add a member filter for a dimension in your report without including data for another member of the same hierarchy:

1. In the Query Panel, click the dimension containing the member for which you want to filter data in your report.

   The Select Members dialog box opens. By default, the dialog box displays the Members option in the drop-down list. Any member filters already included in the report appear in the lower pane:



2. Double-click the member you want to add.

   The added member appears in the lower pane.

3. To select more than one member, repeat step 2.

4. Click **OK** to add the member to your report, and close the Select Members dialog box.

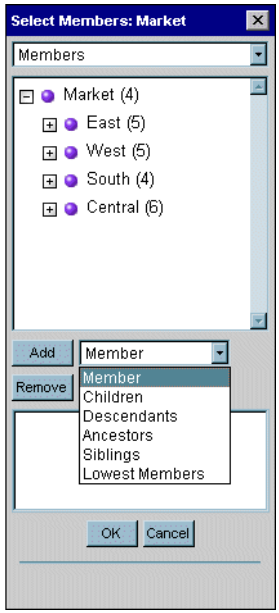
   Your Query Panel displays the member(s) you added under the dimension title.

Adding a member filter with data from the same hierarchy

To add a member and include data for one or more members from the same hierarchy:

1. In the Query Panel, click the dimension containing the member for which you want to filter data in your report.

   The Select Members dialog box opens. By default, the dialog box displays the Members option in the drop-down list. Any member filters already included in the report appear in the lower pane.
2. Single-click the member you want to add.
3. From the drop-down list box located above the lower pane, select the additional member you want to include in the report:



4. Click **Add**.

   To include more than one additional member from the same hierarchy, or to include more than one member as well as members from its hierarchy, repeat step 3.
5. Click **OK** to add the member(s) to your report, and close the Select Members dialog box.

   Your Query Panel displays the member(s) you added under the dimension title.

NOTE

Member filters do not automatically appear in the report grid. To have it appear in the grid, you must drag the member's dimension from the Query Panel, and drop it in the report grid. For more information, see Selecting dimensions on page 39.

Removing member filters

You can remove a single member filter, or all member filters from a dimension.

Removing a single member filter from a dimension

To remove member filters for a dimension from your report:

1. In the Query Panel, select the dimension containing the member filter you want to remove from your report.

   The Select Members dialog box opens.
2. In the list box in the lower pane, either select the member you want to remove and click **Remove**, or double-click the member you want to remove.
3. To remove more than one member, repeat step 2.
4. Click **OK** to remove the member(s) from your report.

   The Query Panel no longer displays the name(s) of the member(s) you removed.

Removing all member filters from a dimension

To remove all member filters for a dimension from your report:

1. In the Query Panel, select the dimension with the member filters you want to remove.

   The Select Members dialog box opens.
2. Click **Remove All** to delete all member filters for the dimension from the report.

   The Query Panel no longer displays the name of the members you removed. Report data is no longer filtered for the removed members.

Clearing all member filters from the report

To clear all member filters for all dimensions from your report, you can either:

- Remove member filters from each individual dimension following the above procedure, Removing all member filters from a dimension on page 53.
- Click the Clear Query button on the toolbar.

  This action removes any member filters included in the report. Report data is displays at its most aggregated level.

  The Clear Query button removes all filters. This button also removes all filters, all ranking, and all sorting. You cannot remove any one of these elements without removing all of them.

Managing large dimensions

If your cube contains a flat file of thousands or hundreds of thousands of members, WebIntelligence for OLAP helps you to manage the display by grouping the dimensions in smaller groups automatically.

The grouping is apparent in the Select Members dialog box. This grouping is also helpful when using the search members mechanism because it allows you to limit your search to groups or sub-groups with the click of mouse.

Level filtering

Levels specify the extent to which data is summarized, or aggregated. If the cube has a balanced hierarchy, a filter on a level includes all the members at that level. It does not actually filter anything out. If the cube has a ragged hierarchy, a level filter restricts all the members that do not have any data at that level. For more information on the different types of hierarchies found in a cube, see Types of hierarchy on page 21.

Unlike adding a member filter, a level filter automatically appears in the report grid. For example, if you filter a dimension by a specific member, the report data changes to reflect that filter, but the member does not appear in the report grid. If you add a level filter, however, the dimension in which you added the filter automatically appears in the report grid.

To omit members from the level, you must specify the particular members you want to include.

NOTE

If you are using an SAP BW server, you see only two levels. The top level is "All." The second level contains every member. This is the default hierarchy. You cannot select members from any other hierarchy, unless your administrator has created a hierarchy variable or hierarchy node variable. All the members of every level of the alternate hierarchies appear together on the second level of the default hierarchy. See your administrator for more information.

Adding level filters

Adding a level filter to a dimension in your report filters the report data by that level.

▶ Adding level filters

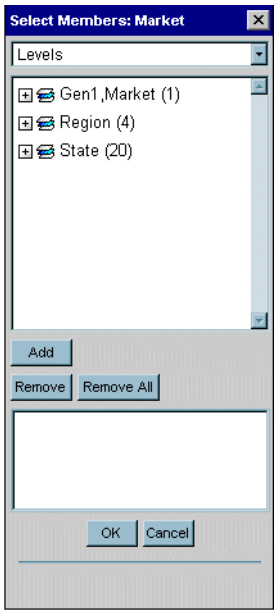
To filter report data for a level of a dimension:

1. In the Query Panel, select the dimension containing the level for which you would like to filter report data.

   The Select Members dialog box opens.

2. Click the list box drop-down arrow located near the top of the dialog box and select Level.

   The list of available levels for the dimension appears:



3. Either double-click the level you want to include, or select the appropriate level and click **Add**.
4. To select more than one level, repeat step 3.
5. Click **OK** to add the level(s) to your report.

   The Query Panel displays the name of the level you added. The report grid displays the dimension name and values for the selected level(s).

Removing level filters

You can remove level filters in a single dimension one at a time, or all at once. You can also clear all level filters in your report.

▶ Removing level filters

To remove single levels of a dimension from your report:

1. In the Query Panel, select the dimension containing a level you want to remove from your report.

   The Select Members dialog box opens.

2. Click the list box drop-down arrow located near the top of the dialog box and select **Level**.
3. From the lower pane list box, either double-click the level you want to remove, or select the level and click **Remove**.
4. To remove more than one level, repeat step 3.
5. Click **OK** to remove the level(s) from your report.

   The Query Panel no longer displays the name of the level(s) you removed. Report data is no longer filtered for the removed levels.

   The highest level in the dimension remains in the report grid. To remove the dimension, you must drag it from the report grid to the Query Panel.

Removing all levels of a dimension

Your report may contain multiple level filters for a given dimension.

To remove all level filters for a dimension from your report:

1. In the Query Panel, select the dimension containing levels you want to remove from your report.

   The Select Members dialog box opens.
2. Click the list box drop-down arrow located near the top of the dialog box and select **Level**.
3. Click **Remove All** to delete all level filters for the dimension from the report.

   The Query Panel no longer displays the names of the removed levels. Report data is no longer filtered for levels in that dimension.

   The highest level in the dimension remains in the report grid. To remove the dimension, you must drag it from the report grid to the Query Panel.

Clearing all levels from the report

To clear all level filters from your report, you can either:

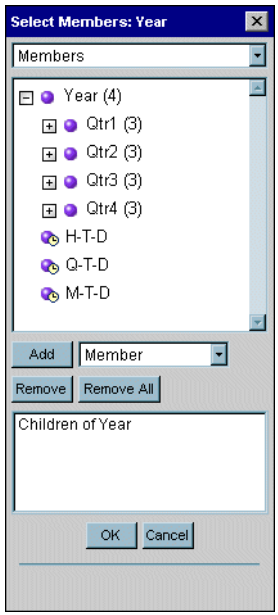
- Remove levels from each individual dimension containing levels by following the above procedure, Removing all levels of a dimension.
- Click the Clear Query button on the toolbar. This action removes any level filters included in the report. For more information see Removing all your query elements on page 115 or Removing or keeping some query elements on page 116.

Dynamic Time Series

Dynamic Time Series is a feature available only to Essbase/DB2 OLAP Server users. It allows you to include dynamic period-to-date information in your reports.

Dynamic Time Series members appear as special members in the Time dimension. In the Select Members dialog box they appear along with members at the top level of the Time dimension. Which dynamic time series members appear depends on which members your system administrator has configured.

Below is an example of members that might appear:



For each Dynamic Time Series member you add to your report, you must also select a member from the lowest level in the Time dimension. Only a single lowest level member can be added to a given time series member.

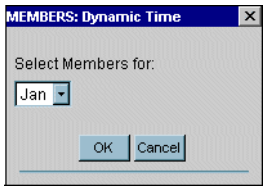
Adding a Dynamic Time Series member

You can add single or several Dynamic Time Series members to your report.

Adding a single Dynamic Time Series

To add a single Dynamic Time Series to your report:

1. In the Query Panel, select the Time dimension.
   The Select Members dialog box opens.
2. Select the Dynamic Time Series member you want to include in you report.
   For example, if you want to see values from the beginning of the year, to a specific month, select M-T-D.
3. Click **Add**.
   The Members dialog box appears:



4. From the drop-down list, select the period up until which you want data to appear in your report; for example, July.
5. Click **OK**.
   The Members dialog box closes, and the Select Members dialog box is displayed.
6. If you do not want to add additional dynamic time series members to your report, click **OK**.
   Your report displays data for the selected time series.

Adding multiple Dynamic Time Series members

To add another Dynamic Time Series member to your report:

1. In the Select Members dialog box, click the time series member you want to add.
   The Members dialog box reopens.
2. Repeat steps 2-5 above until your report contains the appropriate time series members.

Viewing reports with Page Axis

The Page Access view option is a way to quickly navigate through the dimensions. Page Axis allows you to navigate through "slices" of the report while displaying the same row and column format.

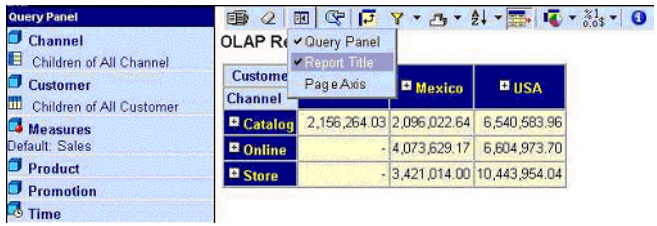
Both Microsoft SQL Server Analysis Services and SAP/BW support page axis.

For example, your report may display the Time dimension on the Page Axis and the tables may display Sales for Product by Customer. You can change the page axis to display data for different years or quarters.

Adding a page axis to your report

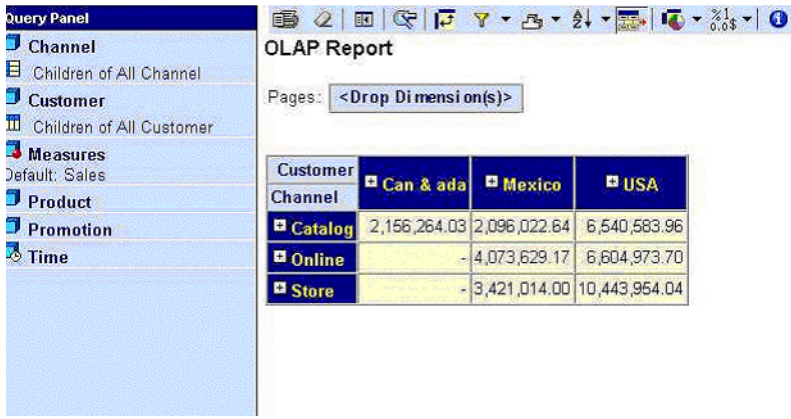
To add the page axis view option:

1. Select your SAP/BW or Microsoft SQL Server Analysis Services server and cube.
2. Click the **View** button on the toolbar and select **Page Axis** from the menu.



The page axis appears across the top of the report above the grid and below the report title.

3. Drag and drop the dimension from either the row or column axis or from the Query Panel to the Drop Dimension(s) text box on the report.



NOTE

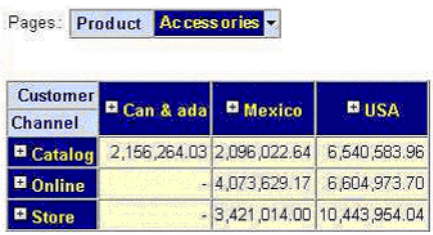
You can also:

- drop additional page axis dimensions to the right of the current page axis
- remove excess page access dimensions by dragging them off the report page

TIP

If you drop a dimension into the row or column, the same member expression as the page axis is evaluated. The same member expression is evaluated if you drag the filter axis for Microsoft SQLServer Analsys Services and SAP/BW. For SAP, if you drag a dimension from the Page axis to the Filter axis, the active member reverts to the same Dimension that appeared before you performed the drag.

The current active member displays.



- the dimension format is the same as the dimensions on the row and column axis
- the member format is the same as for the row and column report members

4. To evaluate another dimension, click the drop down arrow next to the page axis.
5. Select a different member from the list.

   The report display updates to reflect the new data "slice".

Page axis formatting and information

Although you will most likely need to display only one or two page dimensions at a time, the page axis labels wrap to fit into two columns.

When you select page a axis dimension, it displays in the query panel next to the page icon.

The Report Information page displays the page axis information. For more information on what appears in the report information, see Getting information about your report on page 64.

Changing the report view

The default report view includes the Query Panel and the report title. You can hide either or both of these features.

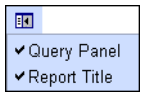
Displaying or hiding the Query Panel

Hiding the Query Panel leaves you more room to view your report.

▶ Hiding the Query Panel

To hide the Query Panel:

1. On the toolbar, click the View button.
   The View menu appears:



2. Unselect the Query Panel option.
   Your screen no longer displays the Query Panel.

NOTE

If you take action on a report, the Query Panel reappears. If you save a report with the Query Panel hidden, your report will show the Query Panel upon opening.

Displaying or hiding the report title

You may want to view or print your report without the report title.

▶ Hiding the report title

To hide the report title:

1. On the toolbar, click the View button.
   The View menu appears.
2. Unselect the Report Title option.
   Your screen no longer displays the report title.

Getting information about your report

A new report is always titled OLAP Report. You are prompted to enter a name when you save the report.

Use the Save option on the InfoView toolbar to save the report. See the *InfoView User's Guide* for more information.

Report information

Click the Report Information button to get information about your report. This information is displayed in the left panel.

The Report Information provides a detailed description of the report and Query Panel contents.

The report description

The report description is generated automatically when you create a report. The general format of the description is shown below and always contains:

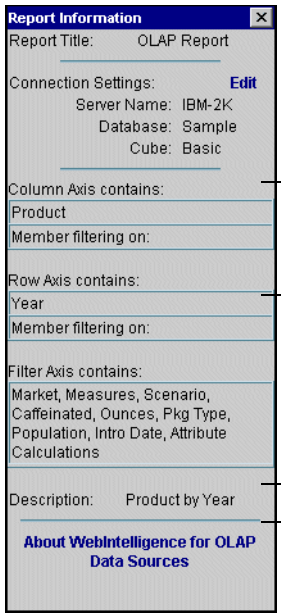
measure, column by row, filtered by member

EXAMPLE

Simple report description

In this example:

Product / Year	100	200	300	400	Diet
Qtr1	7,048.00	6,721.00	5,929.00	5,005.00	7,017.00
Qtr2	7,872.00	7,030.00	6,769.00	5,436.00	7,336.00
Qtr3	8,511.00	7,005.00	6,698.00	5,698.00	7,532.00
Qtr4	7,037.00	7,198.00	6,403.00	5,162.00	6,941.00



Product is on the column axis

Year is on the row axis

Profit is the measure

All the data is filtered by market type, East

If you create a more complex report, a more complex report description is also created. If a report contains multiple columns and rows, the format of the description is:

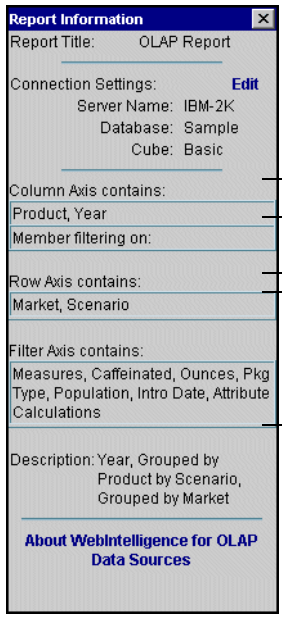
measure, column, grouped by column, column by row, grouped by row, row

EXAMPLE

Report description with multiple columns and rows

In this example:

	Product	100	200	300	400	Diet
	Year	Year				
Market	Scenario					
East	Scenario	12,656.00	2,534.00	2,627.00	6,344.00	2,408.00
West		3,549.00	9,727.00	10,731.00	5,854.00	8,087.00
South		4,773.00	6,115.00	2,350.00	-	4,912.00
Central		9,490.00	9,578.00	10,091.00	9,103.00	13,419.00
Market		30,468.00	27,954.00	25,799.00	21,301.00	28,826.00



Time is the lowest dimension on the column axis

Product is above Time on the column axis

Scenario is the innermost dimension on the row axis

Market is outside Scenario on the row axis

Profit is the measure

If you create a report with filters, ranking, or sorting, the report description also reflects that.

If a report contains filters, ranking, or sorting, the format of the description is:

measure, column by row, ranking, sorting and filtering applied on the column and row axes, filtered by members on the filter axis

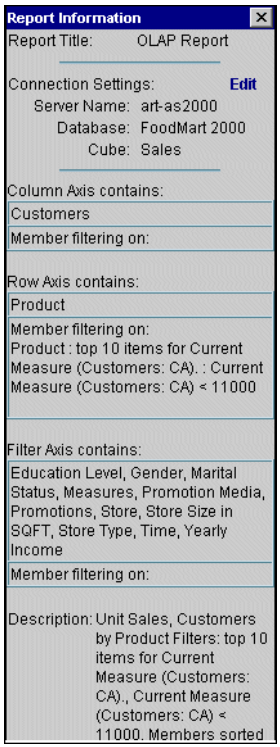
EXAMPLE

Report description with sorts and filters

In this example:

Customers / Product	CA	OR	WA
Snack Foods	8,543.00	7,789.00	14,213.00
Vegetables	5,906.00	5,447.00	9,386.00
Dairy	3,534.00	3,131.00	6,220.00
Jams and Jellies	3,343.00	2,877.00	5,668.00
Fruit	3,184.00	3,008.00	5,575.00
Meat	2,636.00	2,428.00	4,369.00
Baking Goods	2,456.00	1,933.00	3,968.00
Canned Soup	2,209.00	2,049.00	3,748.00
Bread	2,150.00	2,013.00	3,707.00
Vegetables	1,987.00	1,751.00	3,246.00

Data is filtered for values less than 11,000 in the CA Column



Customer on the column axis

Product on the row axis

Data ranked for the top ten rows in the CA column

Editing your data source

Once an OLAP document has been created, you might want to migrate that document from the original data source to another data source. This is useful if your organization is upgrading from a test OLAP server to a production OLAP server. You do this by changing the OLAP server, database, and cube accessed by an OLAP document.

▶ Editing your data source

You edit your connection settings from the Report Description. To connect to another OLAP data source:

1. Click the Report Information button.
   Your report information displays in the left panel.
2. In the upper section of the Report Description, click **Edit**.
   Your connection settings appear as editable text in three boxes.
3. Enter the server name, database, and cube to which you want to connect.
4. Click **Change**.
   The Report Description closes, and your report is refreshed against the new data source. The Query Panel displays the new cube's dimensions.

NOTE

If you connect to a cube that does not contain the dimensions that are on either the row or column axis in the report grid, WebIntelligence changes the data source, but omits the missing dimensions from the new report grid.

Saving and sharing your report

The InfoView toolbar at the top of the browser window lets you download, save, publish, or send your OLAP report. These are standard InfoView features. See the *InfoView User's Guide* for more information.

NOTE

When you download an OLAP report, be sure to save it as a Microsoft Excel Comma Separated Values File type, using the.csv extension.

Printing your report

You can print a streamlined version of your report. The printed version displays:

- the report without the Query Panel
- report grids in black and white
- charts in color (optional)

Printing a WebIntelligence OLAP report

There are two ways to print a version of your report:

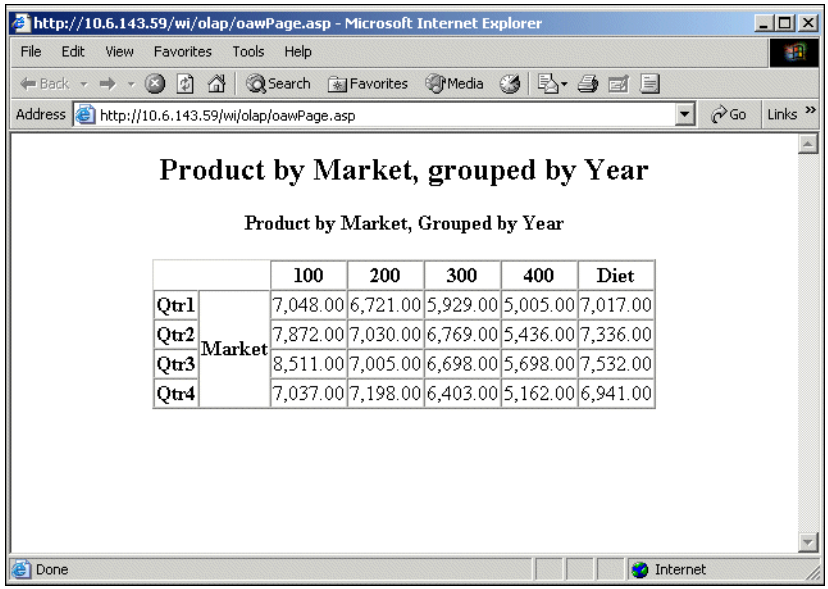
- two-click printing
- using the Print dialog box

Two-click printing

To print a report in two clicks:

1. On the toolbar, with your report open, click the Create Printable Version button.

   A separate browser window opens, displaying the print-ready report:



		100	200	300	400	Diet
Qtr1	Market	7,048.00	6,721.00	5,929.00	5,005.00	7,017.00
Qtr2		7,872.00	7,030.00	6,769.00	5,436.00	7,336.00
Qtr3		8,511.00	7,005.00	6,698.00	5,698.00	7,532.00
Qtr4		7,037.00	7,198.00	6,403.00	5,162.00	6,941.00

2. Click the Print icon.

   When you finish printing, close the print browser window to return to your report.

Using the Print dialog box

To print a report using the Print dialog box:

1. On the toolbar, click Create Printable Version.

   A separate browser window opens, displaying the print-ready report.
2. Right-click inside the print browser window. From the pop-up menu, select **Print**.

   The Print dialog box opens.
3. Verify that your printer settings are appropriate. Click **OK** to print the report and close the dialog box.

   When you finish printing your report, close the print browser window to return to your report.

Working with Charts

chapter 3

Overview

This chapter provides information about creating and editing charts. It contains examples of different chart types and chart formatting options.

The topics covered are:

- Creating charts
- Chart types
- Refining chart data
- Drilling on charts
- Printing charts

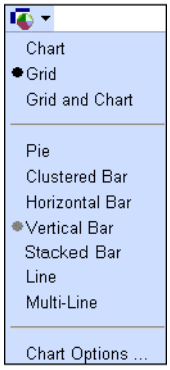
Creating charts

You have several options for displaying report data in the report grid area. Report data can be displayed as a:

- grid (default)
- chart
- grid and chart

Displaying data as a grid or a chart

When you build a report, WebIntelligence automatically displays it in the default grid-only layout. You can transform grid data into a chart format, or display the same data in both the grid and a chart format. You do this by selecting options on the Layout drop-down menu:



Turning grid data into a chart

To turn a report in grid form into a chart:

1. On the toolbar, click the Layout drop-down arrow.
2. From the drop-down menu, select **Chart**.
   Your report data displays in chart form only.

Turning chart data into a grid

To turn a report in chart form into a grid:

1. On the toolbar, click the Layout drop-down arrow.
2. From the drop-down menu, select **Grid**.
   Your report data displays in grid form only.

Displaying report data in both grid and chart format

You may want to display your data in both grid and chart form within the same report. When both grid and chart display the same data, the data is synchronized. This means that charts always reflect the results that you see in your grid. Any actions you perform on the grid such as drilling, value filtering, or zero suppression are instantly visible in the chart as well.

The chart is displayed below the grid. By default, only lowest-level members are displayed in the chart. Members from different levels are not charted together.

▶ Displaying data in grid and chart form

To display report data in both chart and grid formats:

1. On the toolbar, click the Layout drop-down arrow.
2. From the drop-down menu, select **Grid and Chart**.
   Your report data displays in both grid and chart form.

Working with multiple reports

You may want to work with more than one report at a time. For example, you may want to make a copy of a report in order to simultaneously analyze the same data in different ways. You may also want to drill or filter values on one chart, while simultaneously seeing your data in its original form.

▶ Displaying two reports

To display two reports on your screen:

1. Create or open a single report.
2. From the browser menu bar, select **File**, then **New**, then **Window**.
   Two duplicate reports appear on your screen.
3. From the Windows task bar, select **Tile Windows Horizontally**.
   Two reports appear on your screen; one in the top half, the other in the bottom half.

NOTE

When you display two reports using a split screen, the report data is not synchronized.

Chart types

There are two chart types in a WebIntelligence OLAP report:

- single-series
- multi-series

Single-series charts

Pie charts, line charts, vertical bar, and horizontal bar charts are *single-series* charts. They display data for a single row of the report. In a pie chart, for example, each slice represents a column of report data.

By default, single-series charts display the first row of report data. When you drill on such a chart, the drill only includes members from a single level.

Multi-series charts

Clustered bar charts and multi-line charts are *multi-series* charts. They display data for multiple rows and columns. They display all the data from a table or crosstab.

With multi-series charts, rows appear on the X-axis, and columns on the Y-axis. Column labels appear in the legend.

Multi-line charts display a line for every column, and a point for every row. With clustered bar charts, each row in the table appears as a cluster in the chart.

Selecting chart types

You can display report data using the following chart types:

- Pie chart
- Line chart
- Vertical Bar chart
- Horizontal Bar chart
- Clustered Bar chart
- Stacked Bar chart
- Multi-Line chart

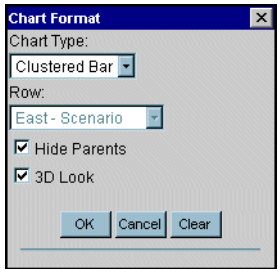
Selecting a chart type

To select a chart type:

1. On the toolbar, click the Layout drop-down arrow.
2. From the drop-down menu, select the type of chart you want to display.
   Your report displays the type of chart you selected.

Alternatively, you can:

1. On the toolbar, click the Layout drop-down arrow.
2. From the drop-down menu, select **Chart Options**.
   The Chart Format dialog box appears:



3. From the Chart Type drop-down list, select the type of chart you want to display.
4. Click **OK**.
   Your report data displays as the type of chart you selected.

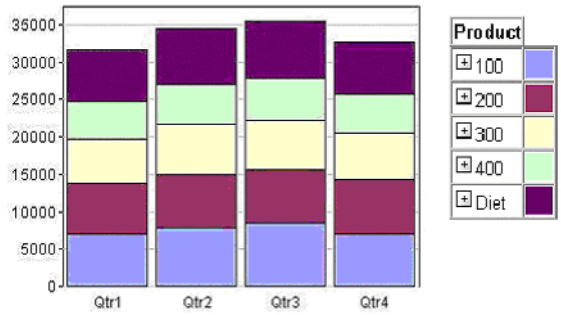
The table below describes the type of charts:

Chart type	Description	3D enabled	drillable
Pie	Displays data units as pieces of a pie	Yes	Yes
Line	Displays data units as horizontal lines	Yes	Yes
Vertical Bar	Displays data in vertical columns	Yes	Yes
Horizontal Bar	Displays data in horizontal bars	Yes	Yes

Chart type	Description	3D enabled	drillable
Clustered Bar	Displays data as...	Yes	Yes
Stacked Bar	Displays the summed total of each row. The areas between a single bar represent how much each group contributes to the total.	No	Yes
Multi-Line chart	Displays the multi-dimensional data in lines.	Yes	Yes

Here is an example of a stacked bar chart:

Product / Year	100	200	300	400	Diet
Qtr1	7,048.00	6,721.00	5,929.00	5,005.00	7,017.00
Qtr2	7,872.00	7,030.00	6,769.00	5,436.00	7,336.00
Qtr3	8,511.00	7,005.00	6,698.00	5,698.00	7,532.00
Qtr4	7,037.00	7,198.00	6,403.00	5,162.00	6,941.00



A stacked bar chart, where each stack represents a quarter and where the colored cells represent the products

Refining chart data

Though you cannot directly apply refinements such as ranks, value filters, and sorts to your chart, there are quick and simple ways to apply any or all of these refinements to your chart data. The easiest way is to:

- Select the Grid and Chart option on the Layout menu.

  This enables you to view chart results immediately and interactively. You can then switch to the Chart option to display only the chart.

Formatting charts

You have a range of formatting options for your charts. You can:

- change the layout of data in the chart
- change the appearance of individual charts

The default chart display options are:

- Vertical Clustered Bar
- Hide Parents
- 3D Look

Changing chart layout by swapping axes

You can change your chart layout by swapping the position of all the rows with all the columns. This rotates the chart.

If there are multiple dimensions on an axis, the relative position of each of the dimensions is maintained.

To swap the positions of two dimensions, or to move a dimension to another position, you must return your chart to grid form. For more information, see Turning chart data into a grid on page 75.

▶ Swapping columns and rows

To swap the position of all the rows with all the columns in a report:

- Click the Swap Axes button on the toolbar.

  The original row and column dimensions are interchanged.

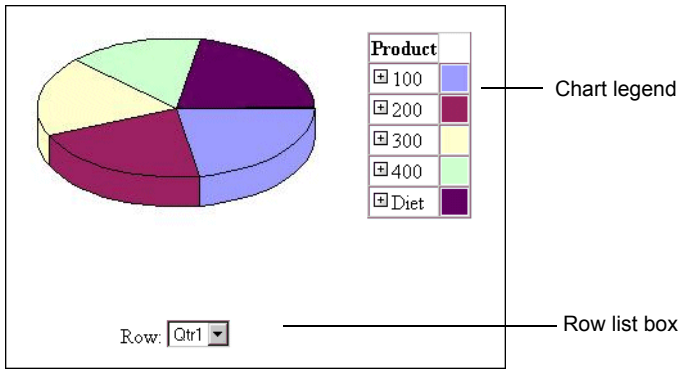
Changing row display in charts

Clustered bar charts and multi-line charts display data for all the rows in your report. Pie, line, horizontal bar and vertical bar charts display data for only one report row at a time. For more information, see Single-series charts and Multi-series charts on page 77.

Changing row display for charts that display a single row of data

To change the display of row data for chart types that display only one row of data at a time:

1. Click the Row drop-down list box located below your chart:



2. Select the row for which you want data to display in your chart.
   Your chart displays data for the row you selected.

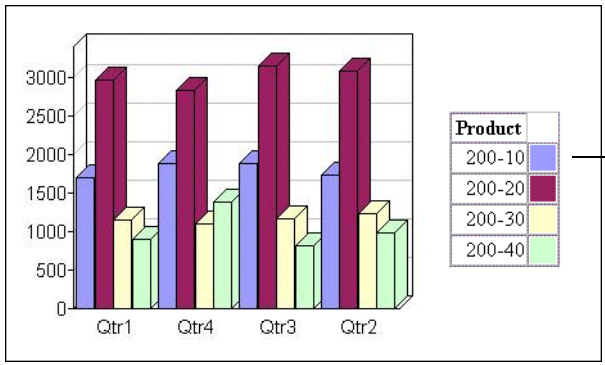
Alternatively, you can:

1. On the toolbar, click the Layout drop-down arrow.
2. From the drop-down menu, select **Chart Options**.
   The Chart Format dialog box appears.
3. From the Row list box, select the row you want to display in your chart.
4. Click **OK**.
   Your chart displays data for the row you selected.

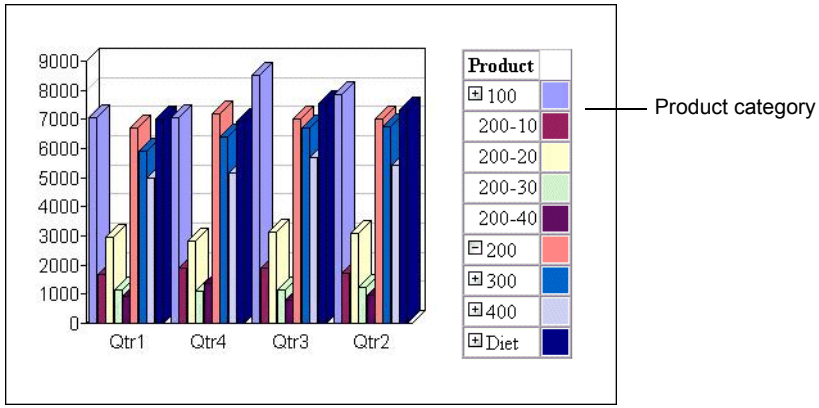
Including parent data in chart display

By default, charts hide parent data. Including parent data can greatly increase the total amount of data displayed in the chart making it more difficult to read and interpret. This is especially true of pie and line charts.

There are, however, instances where you may want to include parent data. For example, the following chart is useful for interpreting overall short-term trends for product sales:



To get a more detailed view of product sales for this time period, you can add parent data to the chart display:



Including parent data

To include parent data in your chart display:

1. On the toolbar, click the Layout drop-down arrow.
2. From the drop-down menu, select **Chart Options**.
   The Chart Format dialog box appears.
3. Clear the Hide Parents check box to unselect this option.
4. Click **OK**.
   Your chart displays data for both parent(s) and child(ren).

Displaying charts in two dimensions

By default, charts are three-dimensional. You may want to change from a three-dimensional to a flat, or two-dimensional display of chart data.

Changing chart display to two dimensions

To change the default 3D chart display:

1. On the toolbar, click the Layout drop-down arrow.
2. From the drop-down menu, select **Chart Options**.
   The Chart Format dialog box appears.
3. Clear the 3D check box to unselect this option.
4. Click **OK**.
   Your chart displays data in a two-dimensional format.

Drilling on charts

Drilling is a process for viewing the lower-level data behind your aggregated totals. It lets you move back and forth from summary to detailed data.

You drill down to view more detailed data. You drill up to view aggregated data. For example, if your report shows sales for Europe, you could drill down to view sales for France, drill down again to view sales for Paris, and then drill up again to view sales for France.

Drill icons

A plus sign (+) indicates that you can drill on a value in a column or row. A minus sign (-) indicates that you have drilled down on a dimension, and that it is possible to drill up on that same dimension. When you reach the lowest level for the data in that dimension, the values are displayed without a sign:

Product / Year	+ 100	+ 200	+ 300	+ 400	+ Diet
Jan	2,355.00	2,141.00	1,917.00	1,611.00	2,279.00
Feb	2,329.00	2,323.00	1,997.00	1,697.00	2,362.00
Mar	2,364.00	2,257.00	2,015.00	1,697.00	2,376.00
- Qtr1	7,048.00	6,721.00	5,929.00	5,005.00	7,017.00
+ Qtr2	7,872.00	7,030.00	6,769.00	5,436.00	7,336.00
+ Qtr3	8,511.00	7,005.00	6,698.00	5,698.00	7,532.00
+ Qtr4	7,037.00	7,198.00	6,403.00	5,162.00	6,941.00

By default, chart data displays at its lowest, or least aggregated level.

NOTE

The chart legend displays up to four drillable members. If your chart contains more than four drillable members, your chart legend will automatically display with a vertical scroll bar. You can use this scroll bar to navigate the list of drillable members.

Drilling in chart-only display

You can drill down on chart data in one of three ways.

▶ Drilling down on chart data

The three ways to drill down on chart data are:

- From the Chart Legend, double-click the item on which you want to drill down.

  Your chart displays data for the values to which you drilled down. To return to the pre-drilling chart display, click the Back navigation button on your web browser toolbar.
- From the chart legend, single-click the plus sign (+) to the left of the item on which you want to drill down.

  Your chart displays data for the values to which you drilled down. To return to the pre-drilling chart display, click the Back navigation button on your web browser toolbar.
- Double-click a chart segment for which a plus sign (+) appears in the chart legend.

  Your chart displays data for the values to which you drilled down. To return to the pre-drilling chart display, click the Back navigation button on your web browser toolbar.

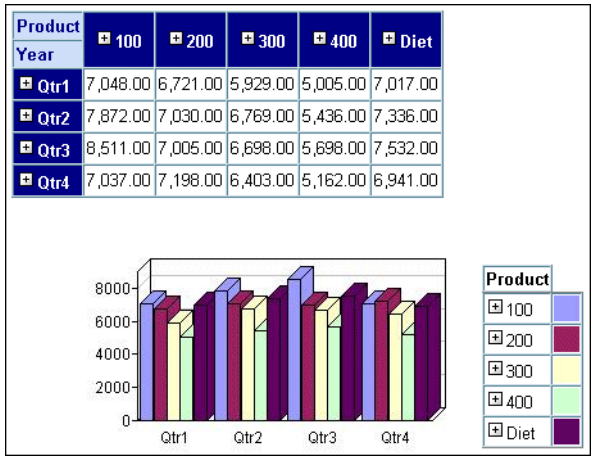
NOTE

To avoid having to use the Back button to drill up, you can change data display from Chart only to Grid and Chart. See Drilling in grid and chart display below. When you finish drilling on report data, you can change the report back to Chart form.

Drilling in grid and chart display

When report data is displayed in both chart and grid format, you can drill down on either the grid or the chart. However, you can drill up only on the grid. The drill down and drill up results are dynamically applied to both grid and chart.

For example, when you drill down on Qtr1 on the grid, both the grid and the chart data change to reflect your drilling:



This dynamic update of report data is valid for both drill down and drill up options.

Printing charts

You can print any chart, even those charts containing very large amounts of data. Whatever your chart size, it will be scaled to fit into a page.

The printed chart will only display data for those members visible in the chart legend.The Dimension Line will not be printed. When you print your chart, the following elements appear on the page:

- Chart title
- Report description
- Chart
- Chart legend

Printing your report in chart display

There are two ways to print a version of your chart:

- two-click printing
- using the Print dialog box

▶ Two-click printing

To print a chart in two clicks:

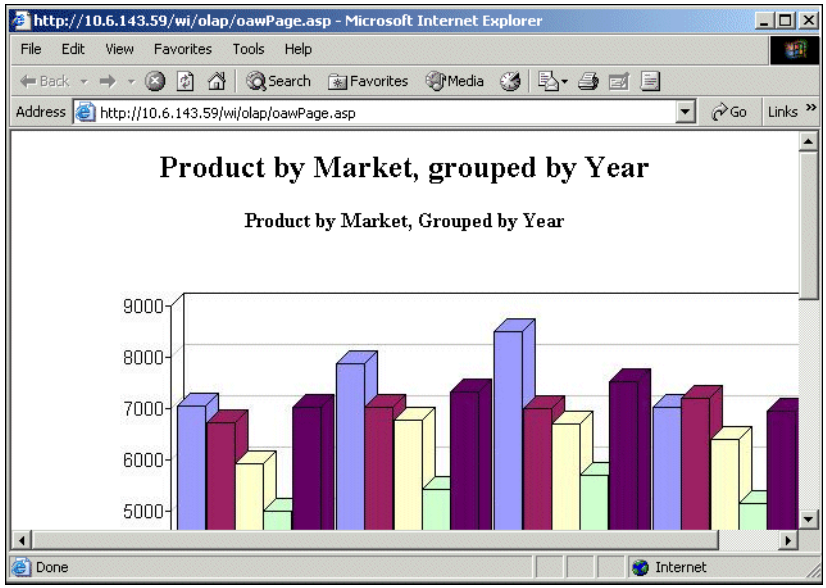
1. On the toolbar, with your report open, click **Create Printable Version**.
   A separate browser window opens, displaying the print-ready report.
2. On the separate browser toolbar, click **Print**.
   When you have finished printing your report, close the print browser window to return to your report.

Using the Print dialog box

To print a chart using the Print dialog box

1. On the toolbar, click **Create Printable Version**.

   A separate browser window opens:



2. From the Menu bar, select **File**, then **Print**.

   The Print dialog box appears.

3. Verify that the information displayed in the Print dialog box is correct and click **OK**.

   Your chart prints to the default printer. If you are using a color printer, your chart and chart legend print in color.

4. On the toolbar, select **File**, then **Close** to close the print browser window.

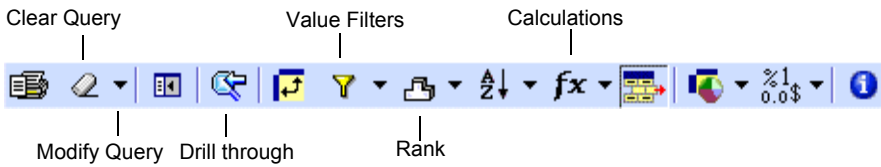
Analyzing Your Data

chapter 4

Overview

You can use drilling, filters, and ranking and on report calculations to refine the data in your report to display exactly the information you need.

This chapter describes how to use the analysis features, and explains the buttons shown below:



You will learn about:

- Drilling on tables
- Performing multiple operations
- Value filtering
- Ranking data
- Removing all your query elements
- Removing or keeping some query elements
- Using multiple hierarchies and alternate hierarchies
- Performing quick and custom calculations

Drilling on tables

Drilling is a process for viewing the lower-level data behind your aggregated results. It lets you move between different levels of summarized data.

You drill down to view more detailed data. You drill up to view aggregated data. For example, if your report shows sales for Europe, you could drill down to view sales for France, drill down again to view sales for Paris, and then drill up to view sales for France.

For information on how to drill on a chart, see Drilling on charts on page 84.

For information on the drill through feature, see the *Universal Drill Through Service Guide*.

Drill icons

A plus sign (+) indicates that you can drill on a value in a column or row. A minus sign (-) indicates that you have drilled on a dimension, and that you can drill up on that same dimension.

When you reach the lowest level for the data in a given dimension, values display without a sign. By default, WebIntelligence displays report data at its most aggregated level.

Product / Year	+ 100	+ 200	+ 300	+ 400	+ Diet
Jan	2,355.00	2,141.00	1,917.00	1,611.00	2,279.00
Feb	2,329.00	2,323.00	1,997.00	1,697.00	2,362.00
Mar	2,364.00	2,257.00	2,015.00	1,697.00	2,376.00
- Qtr1	7,048.00	6,721.00	5,929.00	5,005.00	7,017.00
+ Qtr2	7,872.00	7,030.00	6,769.00	5,436.00	7,336.00
+ Qtr3	8,511.00	7,005.00	6,698.00	5,698.00	7,532.00
+ Qtr4	7,037.00	7,198.00	6,403.00	5,162.00	6,941.00

Drilling overview

Drilling on an item expands the tree to display the item you drilled on, plus all its children. Subsequently, drilling on one of the children expands the tree again to show the item you drilled on and all of *its* children. An item which can expand to display children is denoted by a plus sign (+).

NOTE

If you are using an Essbase/DB2 OLAP server, drill behavior differs from the one described above. When you drill on an item using an Essbase/DB2 OLAP server, children expand above the drilled item.

	Product	100	200	300	400	Diet
Year	Market					
Jan	Market	2,355.00	2,141.00	1,917.00	1,611.00	2,279.00
Feb		2,329.00	2,323.00	1,997.00	1,697.00	2,362.00
Mar		2,364.00	2,257.00	2,015.00	1,697.00	2,376.00
Qtr1		7,048.00	6,721.00	5,929.00	5,005.00	7,017.00
Apr		2,442.00	2,283.00	2,203.00	1,716.00	2,396.00
May		2,571.00	2,302.00	2,242.00	1,814.00	2,434.00
Jun		2,859.00	2,445.00	2,324.00	1,906.00	2,506.00
Qtr2		7,872.00	7,030.00	6,769.00	5,436.00	7,336.00
Qtr3		8,511.00	7,005.00	6,698.00	5,698.00	7,532.00
Qtr4		7,037.00	7,198.00	6,403.00	5,162.00	6,941.00

Drilling down to more detailed data

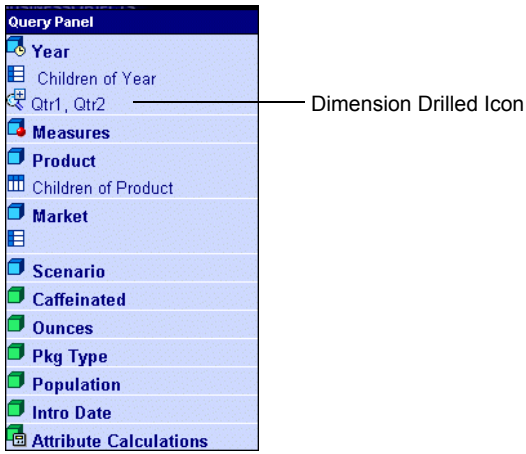
You can drill down on data to see the lower-level details behind an aggregated result.

Drilling down

To view more detailed data for an item in your report:

- Click the plus sign (+) to the left of the item.

  Your report displays the item you drilled down on and its children. The Query Panel displays the Dimension Drilled icon to the left of the member or dimension on which you drilled.



Drilling up to aggregated data

After you have drilled down on a dimension in a column or row, you can drill up to see how that data aggregates.

Drilling up

To view aggregated data for an item in your report:

- Click the minus sign (-) to the left of the item.

  Your report no longer displays the children of the item on which you drilled up. If the report contains any parents of the item, a minus sign still appears to the left of the item. The Drilled Dimension icon appears in the Query Panel until you drill up to the highest level.

Removing drilling

You may want to remove all the changes made to your report through drilling. You can return directly to the highest level of aggregated data for your report in a single click.

▶ Removing your drill actions

To reset your report to display the highest level of data:

- Click the **Clear Query** button on the toolbar.

  Your report data displays data at its most aggregated level.

  The Clear Query button removes all drilling. This button also removes all filters, all ranking, and all sorting. You cannot remove any one of these elements without removing all of them.

Performing multiple operations

You can perform multiple operations on a report. You must respect a specific order, however, when you want to perform more than one operation. The order is:

1. Value Filter
2. Rank
3. Sort

When you perform all three operations, the results merge together logically when you follow the order above.

EXAMPLE

Executing three operations to obtain logical results

You decide to analyze your data to highlight the top five brands in your region. You apply a filter on your region, rank the top 5 of those values returned by the value filter, and sort those five members. Your results are more logical than if you sort without first filtering or ranking your data. If you sort first, then your data is no longer sorted when you rank.

Combining drilling with other operations

If you perform another operation before drilling on either an Essbase/DB2 OLAP or Analysis Services server, drilling does not affect that other operation. The ranks, sorts, or filters added to your report before drilling remain.

NOTE

Depending on how your administrator of the SAP OLAP cube has set up the dimensions, and how you interact with the report, the behavior described below could vary.

If you only have one level below the top level and display children of the top level, (as is the case with a default report) then no members exist below the bottom level for drilling. If you drag another member from the query panel to the grid, however, you are placing the top level member on the report and then can drill down to the bottom level of the dimension.

Value filtering

Filters let you reduce the data displayed in a report, allowing you to analyze the data in which you are most interested.

Member filtering on page 48 explains how to create member filters. Value filters provide another option for restricting report data to the specific data you want to analyze.

Filtering values on an Essbase/DB2 OLAP server

A value filter lets you restrict the data displayed in the report to only certain values. For example, you can show only those stores with sales of more than $300,000 for the month.

You apply a value filter to the innermost row dimension of a particular column. The value filter is applied to the rows that you originally placed in the report.

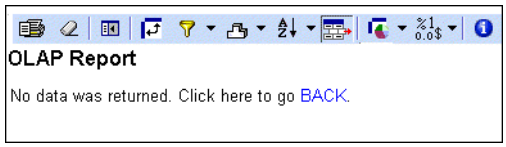
NOTE

If you have previously drilled in the report, creating a value filter removes your drilling. If you move the dimension for which you are filtering values, the filter is removed.

You can apply the following types of value filters to your report:

- Default value filter (> selected cell)
- Standard value filters (>, or >=, or <, or <= selected cell)
- Custom value filter

If you apply a value filter for which no column values exist, WebIntelligence displays the following message:



Only one value filter is allowed. If you create a second value filter, it overwrites the first one.

Applying the default value filter

The default value filter for a column displays all values greater than the selected cell.

To apply the default value filter to a column in your report:

1. Select the cell in the column to which you want to apply a value filter.
2. On the toolbar, click the **Value Filter** button.

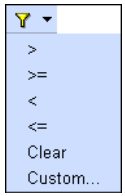
   Your report displays data only for those rows that contain values greater than the value of the selected cell in the filtered column.

Applying standard value filters

To apply a standard value filter (>, or >=, or <, or <= selected cell):

1. Select the cell in the column to which you want to apply a value filter.
2. On the toolbar, click the Value Filter drop-down arrow.

   The Value Filter menu appears.

3. From the Value Filter menu, select the value filter that you want to apply to the selected cell.

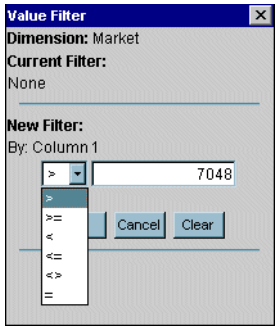
   Your report displays data for those rows that contain values corresponding to the value filter you applied to the selected cell in the filtered column.

Applying custom value filters

You use custom value filters to filter column data using the value of your choice. You are not limited to those values displayed in the column.

To apply a custom value filter:

1. Select the cell in the column to which you want to apply a value filter.
2. On the toolbar, click the Value Filter drop-down arrow.
   The Value Filter menu appears.
3. From the Value Filter menu, select **Custom**.
   The Filter by Value dialog box appears:



4. From the drop-down list of operators, select the appropriate operator.
5. In the Value box, enter the value of the filter you want to apply.
6. Click **OK**.
   Your report displays data for those rows that contain values corresponding to the custom value filter you applied to the selected cell in the filtered column.

Removing value filters

To remove a value filter from a column:

1. Select any cell in the column from which you want to remove a value filter.
2. On the toolbar, click the Value Filter drop-down arrow.
   The Value Filter menu appears.
3. From the Value Filter menu, select **Clear**.
   Your report displays row and column data without the value filter.

Filtering values on an Analysis Services or SAP BW server

A value filter lets you restrict the data that displays in a report selecting a specific value, or a percentage. For example, you can create a report to display only those stores with sales of more than $300,000 for the month, or only those stores with sales that are more than 10% of the total for all stores.

You can apply a value filter to dimensions on the row axis based on:

- a specific value
- a percentage of the total value for the dimension
- a percentage of the parent value

NOTE

The percentage is based on all the data for the entire dimension, even if your report does not contain all the data for a given dimension. For example, if you included only a few members, the calculation is on the value of the entire dimension.

The table below details which value filter features can be used with the OLAP servers.

Available value filter feature	Analysis Services	SAP BW
Filter dimensions on the row axis, and then move the dimensions to the column axis without removing the filter	yes	yes
Move a filtered dimension off the report without removing the value filter	yes	no
Value filter for the dimension resets to the default member if you move a filtered dimension off the report	no	yes
Value filter applied to the default member, which is the top level in the dimension, even if the report does not include the default member	no	yes

NOTE

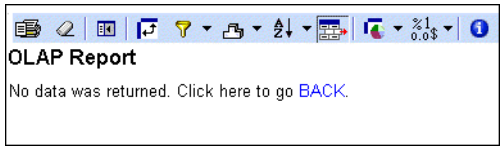
Only one value filter is allowed. If you create a second value filter, it overwrites the first one.

You can apply the following types of value filters to your report:

- default value filter (> selected cell)
- standard value filters (>, or >=, or <, or <= selected cell)
- custom value filter

NOTE

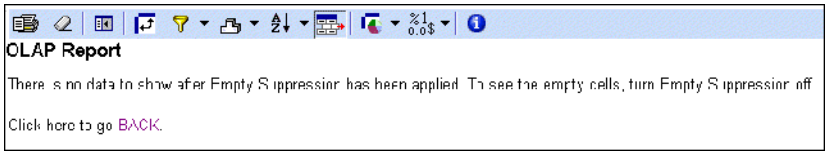
If you apply a value filter in either Analysis Services or SAP BW for which no column values exist in the entire report, WebIntelligence displays the following message:



You have to return to the previous page, and select a value filter that corresponds to the data in the report.

NOTE

If you apply a value filter in a report in which data does not appear because Empty Suppression is turned on, WebIntelligence for OLAP displays the following message:



Turn Empty Suppression off to see the empty cells. Showing empty cells lets you know exactly what you have selected in you report, allowing you to confirm your member selections when you filter.

For more information on showing or hiding empty cells, see Suppressing empty cells on page 161.

Applying the default value filter

The default value filter for a column displays all values greater than the selected cell.

To apply the default value filter to a column in your report:

1. Select the cell in the column to which you want to apply a value filter.
2. On the toolbar, click the **Value Filter** button.

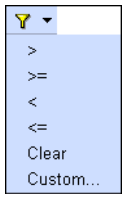
   Your report displays data only for those rows that contain values greater than the value of the selected cell in the filtered column.

Applying standard value filters

To apply a standard value filter (>, or >=, or <, or <= selected cell):

1. Select the cell in the column to which you want to apply a value filter.
2. On the toolbar, click the Value Filter drop-down arrow.

   The Value Filter menu appears:



3. From the Value Filter menu, select the value filter you want to apply to the selected cell.

   Your report displays data for those rows that contain values corresponding to the value filter you applied to the selected cell in the filtered column.

Applying custom value filters

You use custom value filters to filter column data using the value of your choice. You are not limited to those values displayed in the column.

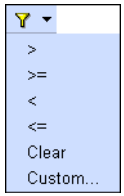
You must base custom value filters on one of the following criteria:

- a percentage of parent values
- a percentage of the total value for the dimension

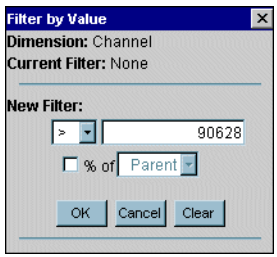
Percentage of parent values

To apply a value filter based on a percentage of the value of parent data:

1. Select a cell in the column to which you want to apply a value filter based on a percentage of parent values.
2. On the toolbar, click the Value Filter drop-down arrow.
   The Value Filter menu appears.



3. From the Value Filter menu, select **Custom**.
   The Filter by Value dialog box appears.



4. Click the **% of** check box.
   The % of drop-down list box is active.
5. From the drop-down list box, select **Parent**.
6. Click **OK**.
   Your report displays data for the selected rows as a percentage of parent values.

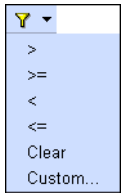
Percentage of the total value for the dimension

To apply a value filter based on a percentage of the total value for the dimension:

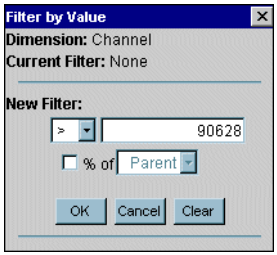
1. Select a cell in the column to which you want to apply a value filter based on

a percentage of the total value for the dimension.

2. On the toolbar, click the Value Filter drop-down arrow.
   The Value Filter menu appears.



3. From the Value Filter menu, select **Custom**.
   The Filter by Value dialog box appears.



4. Select the **% of** check box.
   The % of drop-down list box is active.
5. From the drop-down list box, select **Total**.
6. Click **OK**.
   Your report displays data for the selected rows as a percentage of the total for the dimension.

Removing value filters

To remove a value filter from a column:

1. Select any cell in the column from which you want to remove a value filter.
2. On the toolbar, click the Value Filter drop-down arrow.
   The Value Filter menu appears.
3. From the Value Filter menu, select **Clear**.
   Your report displays row and column data without the value filter.

Ranking data

Ranking lets you organize your data, allowing you to analyze the data in which you are most interested. It is similar to a value filter. Unlike a value filter, however, ranked data appears in order from highest to lowest (or lowest to highest). The default rank is Top 10.

If the rows in your report have more than one dimension, the ranking always occurs on the innermost dimension. This is called a nested rank. For example, this report has two dimensions on the rows:

Product-City Scenarios
Measures, Product by Scenario, Grouped by Market

	Product	Colas	Root Beer	Cream Soda	Fruit Soda	Diet Drinks
Market	Scenario					
New York	Actual	3,498.00	492.00	544.00	3,668.00	-
	Budget	3,480.00	890.00	580.00	4,270.00	-
Florida	Actual	2,056.00	948.00	1,091.00	934.00	2,135.00
	Budget	2,200.00	1,340.00	1,110.00	1,250.00	2,290.00
California	Actual	999.00	4,881.00	4,187.00	2,897.00	2,426.00
	Budget	2,620.00	5,040.00	4,140.00	2,390.00	2,430.00
Oregon	Actual	440.00	1,563.00	804.00	2,255.00	1,712.00
	Budget	1,530.00	1,940.00	990.00	1,810.00	2,230.00
Texas	Actual	2,864.00	2,897.00	664.00	-	1,922.00
	Budget	4,210.00	2,790.00	950.00	-	2,500.00

If you create a rank of the top five on Colas, the data is ranked according to the Scenario dimension. You get the following result:

Product-City Scenarios

Measures, Product by Scenario Filter: top 5 rows for Column 1., Grouped by Market

	Product	Colas	Root Beer	Cream Soda	Fruit Soda	Diet Drinks
Market	Scenario					
New York	Actual	3,498.00	492.00	544.00	3,668.00	-
	Budget	3,480.00	890.00	580.00	4,270.00	-
Florida		2,200.00	1,340.00	1,110.00	1,250.00	2,290.00
	Actual	2,056.00	948.00	1,091.00	934.00	2,135.00
California	Budget	2,620.00	5,040.00	4,140.00	2,390.00	2,430.00
	Actual	999.00	4,881.00	4,187.00	2,897.00	2,426.00
Oregon	Budget	1,530.00	1,940.00	990.00	1,810.00	2,230.00
	Actual	440.00	1,563.00	804.00	2,255.00	1,712.00
Texas	Budget	4,210.00	2,790.00	950.00	-	2,500.00
	Actual	2,864.00	2,897.00	664.00	-	1,922.00

If you start with the rows reversed and then create a rank of the top five, the data is ranked according to each state. You get an entirely different result:

	Product	Colas	Root Beer	Cream Soda	Fruit Soda	Diet Drinks
Scenario	Market					
Actual	New York	3,498.00	492.00	544.00	3,668.00	-
	Texas	2,864.00	2,897.00	664.00	-	1,922.00
	Florida	2,056.00	948.00	1,091.00	934.00	2,135.00
	California	999.00	4,881.00	4,187.00	2,897.00	2,426.00
	Oregon	440.00	1,563.00	804.00	2,255.00	1,712.00
Budget	Texas	4,210.00	2,790.00	950.00	-	2,500.00
	New York	3,480.00	890.00	580.00	4,270.00	-
	California	2,620.00	5,040.00	4,140.00	2,390.00	2,430.00
	Florida	2,200.00	1,340.00	1,110.00	1,250.00	2,290.00
	Oregon	1,530.00	1,940.00	990.00	1,810.00	2,230.00

Ranking data using an Essbase/DB2 OLAP or SAP BW server

If you drill then add a rank, the drilled-down members are automatically added to the query. They are required to allow the rank operation.

You can perform the following types of ranks in your report:

- default rank (Top 10)
- standard ranks (Top 10, Top 5, Bottom 10, Bottom 5)
- custom ranks

NOTE

An SAP BW server always ranks the data in the column that is the top level for the dimension. This is the default member. The server ranks the data of the default member, even if the report does not include the default member.

▶ Ranking data using the default rank

To rank the Top 10 row values for a column:

1. Select the column on which you want to perform a rank.
2. On the toolbar, click the **Rank** button.
   The column you selected displays the top 10 row values.

NOTE

If the column you select contains less than 10 values, column data will be ranked according to the number of values present.

Ranking data using standard ranks

The most commonly used ranks are: Top 10, Top 5, Bottom 10, Bottom 5. To apply one of these standard ranks to your report data:

1. Select the column on which you want to perform a rank.
2. On the toolbar, click the Rank drop-down arrow.
   The Rank drop-down menu appears:

3. Select the standard rank you want to perform.
   Column data displays in the order of the rank you selected.

Ranking data using a custom rank

Custom ranks allow you to set your own criteria for ranking data. To perform a custom rank:

1. Select the column on which you want to perform a rank.
2. On the toolbar, click the Rank drop-down arrow.
   The Rank drop-down menu appears.
3. From the drop-down menu, select **Custom**.
   The Rank by Value dialog box opens:

4. In the drop-down list box, select either **Top** or **Bottom**.

5. Enter a value in the text box for the number of rows you want to include in your rank.
6. Click **OK**.
   Column data displays in the order of the rank you performed.

Removing ranks

To remove a rank you performed on column data:

1. Select the column from which you want to remove a rank.
2. On the toolbar, click the Rank drop-down arrow.
   The Rank drop-down menu appears.
3. From the drop-down menu, select **Clear**.
   Column data displays without a rank.

Ranking data using an Analysis Services server

If you drill then add a rank, the drilled-down members are automatically added to the query. They are required to allow the rank operation.

You can perform the following types of ranks in your report:

- default rank (Top 10)
- standard ranks (Top 10, Top 5, Bottom 10, Bottom 5)
- custom ranks

You can also create a custom rank on your data based on:

- a specific number of rows
- a percentage of the values for the rows, compared to the parent
- the sum of the values for the rows

Ranking data using the default rank

To rank the Top 10 row values for a column:

1. Select the column on which you want to perform a rank.
2. On the toolbar, click the **Rank** button.
   The column you selected displays the top 10 row values.

NOTE

If the column you select contains less than 10 values, column data will be ranked according to the number of values present.

Ranking data using standard ranks

The most commonly used ranks are: Top 10, Top 5, Bottom 10, Bottom 5. To apply one of these standard ranks to your report data:

1. Select the column on which you want to perform a rank.
2. On the toolbar, click the Rank drop-down arrow.
   The Rank drop-down menu appears:

3. Select the standard rank you want to perform.
   Column data displays in the order of the rank you selected.

Ranking data using custom ranks

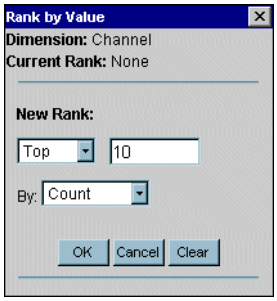
You can create a custom rank on your data based on:

- a specific number of rows
- a percentage of the values for the rows, compared to the parent
- the sum of the values for the rows

To perform a rank on a specified number of rows:

1. Select the column on which you want to perform a rank.
2. On the toolbar, click the Rank drop-down arrow.
   The Rank drop-down menu appears.

3. From the drop-down menu, select **Custom**.
   The Rank by Value dialog box opens:



4. In the upper drop-down list box select either **Top** or **Bottom**.
5. Enter a value in the text box for the number of rows you want to include in your rank.
6. In the lower drop-down list box, select **Count**.
   Your report displays the column data in the order you specified. Your report description includes your custom rank.

To apply a rank to a percentage of the value of the rows, as compared to parent values:

1. Select the column on which you want to perform a rank.
2. On the toolbar, click the Rank drop-down arrow.
   The Rank drop-down menu appears.
3. From the drop-down menu, select **Custom**.
   The Rank by Value dialog box opens.
4. In the upper drop-down list box, select either **Top** or **Bottom**.
5. Enter a value in the text box for the number of rows you want to include in your rank.
6. In the lower drop-down list box, select **Percent**.
   Your report displays column data in the order of the rank you specified. Your report description includes your custom rank.

To apply a rank to the sum of the values for the rows:

1. Select the column on which you want to perform a rank.
2. On the toolbar, click the Rank drop-down arrow.
   The Rank drop-down menu appears.
3. From the drop-down menu, select **Custom**.
   The Rank by Value dialog box opens.
4. In the upper drop-down list box, select either **Top** or **Bottom**.
5. Enter a value in the text box for the number of rows you want to include in your rank.
6. In the lower drop-down list box, select **Cumulative**.
   Your report displays column data in the order you specified. Your report description includes your custom rank.

Removing ranks

To remove a rank you performed on column data:

1. Select the column from which you want to remove a rank.
2. On the toolbar, click the Rank drop-down arrow.
   The Rank drop-down menu appears.
3. From the drop-down menu, select **Clear**.
   Column data displays without a rank.

Ranking data without parent values

You may want to perform a rank (or have performed a rank) on the values in a drilled-down dimension. After you drill down on a member, however, the report grid displays the drilled-down values, as well as the parent value. Any rank you perform on the column data will include the parent value.

For example, If you want to rank the drilled-down data by Top 10, the top value in the column will be the parent value, because it is an aggregation of its children's values:

Education Level / Customers	Bachelors Degree	Graduate Degree	High School Degree
CA	19,836.00	4,174.00	21 131.00
Altadena	387.00	113.00	597.00
Arcadia	629.00	97.00	704.00
Bellflower	727.00	113.00	1 087.00
Berkeley	45.00	-	27.00
Beverly Hills	725.00	66.00	1 083.00
Burbank	914.00	126.00	1 029.00
Burlingame	32.00	5.00	61.00
Chula Vista	829.00	167.00	779.00
Colma	54.00	13.00	7.00
Concord	39.00	14.00	27.00
Coronado	559.00	205.00	551.00
Daly City	22.00	-	54.00
Downey	810.00	400.00	876.00

In the last figure, you have drilled down on California to see values for each city. The parent value is included in the report, above its children. If you rank the customers in each city based on educational level, California will be included in the rank:

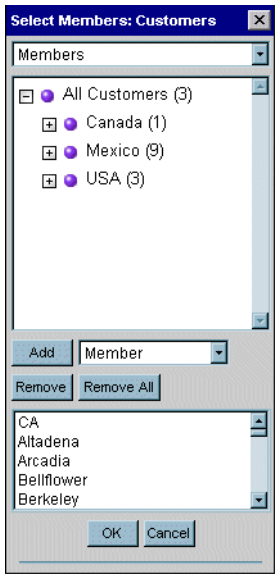
Education Level / Customers	Bachelors Degree	Graduate Degree	High School Degree
CA	19,706 70	4,174 70	7[illegible] 0[illegible]
Newport Beach	1,791 70	171 70	770 0[illegible]
Long Beach	1,740 70	205 70	610 0[illegible]
Burbank	574 70	126 70	1,059 0[illegible]
Glendale	775 70	270 70	949 0[illegible]
Lakewood	740 70	170 70	556 0[illegible]
Chula Vista	729 70	167 70	779 0[illegible]
Torrance	725 70	130 70	870 0[illegible]
Pomona	714 70	106 70	770 0[illegible]
Downey	710 70	100 70	926 0[illegible]

Ranking data on only the children of a drilled-down member

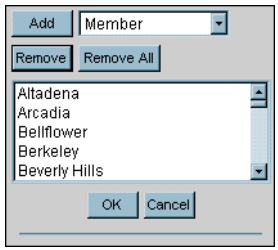
To perform a column rank only on the values of the children:

1. In the Query Panel, single-click the dimension you want to rank or have previously ranked.

   The Select members dialog box opens:



2. In the lower pane, single-click the parent value, then click **Remove**.
   The parent value is no longer displayed in the lower pane:



3. Click **OK** to close the Select Members dialog box.
   The report grid displays the Top 10 values for the drilled-down dimension, excluding the parent value:

Education Level / Customers	Bachelors Degree	Graduate Degree	High School Degree
Newport Beach	1,091.00	171.00	783.00
Long Beach	1,040.00	205.00	618.00
Burbank	914.00	126.00	1,029.00
Glendale	875.00	278.00	849.00
Lakewood	846.00	178.00	596.00
Chula Vista	829.00	167.00	779.00
Torrance	825.00	38.00	803.00
Pomona	814.00	86.00	783.00
Downey	810.00	400.00	876.00
San Gabriel	804.00	210.00	806.00

To display your report with the parent value included:

1. In the Query Panel, single-click the dimension in which you ranked your data.
   The Select Members dialog box opens.
2. In the upper pane, select the parent member on which you originally drilled down, then click **Add**.
   The parent value appears below its children in the lower pane.
3. Click **OK** to close the Select Members dialog box.
   The report grid displays the Top 10 values for the drilled-down dimension, including the parent value.
   You can now drill up to display only the parent value, or remove the rank to display your data in its original form.

Removing all your query elements

Click the Clear Query button on the toolbar to remove all drilling, all filters, all ranking, and all sorting. You cannot remove any one of these without removing all of them.

Removing or keeping some query elements

The Keep Remove feature allows you to modify your query without accessing the query panel. The Modify Query Menu is an extension of the Clear Query option. It allows you to add or remove members directly on the report. By bypassing the process of opening the query panel you:

- avoid returning to the metadata tree to locate the members you wish to keep or remove
- avoid selecting family operators that already appear in the report
- simplify how you make changes to your report
- modify the current report

When to use Keep Remove

You can use the Keep Remove commands when you are able to select multiple dimensions on your report.

The Keep Remove options are useful when you want to:

- display only the important data
- clarify the results you want to present
- keep drilled members displayed and perform further analysis such as rank, or filter

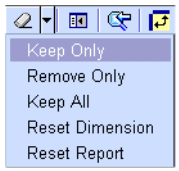
The Keep Remove Options

You can use the Keep Remove options after selecting the members you want to change in your report. The Keep Remove options are:

Option	Description
Keep Only	• Maintains your selected members in your report Members that are not selected are removed from the report
Remove Only	• Removes your selected members from your report Members that are not selected remain on the report

Option	Description
Keep All	• Keeps all the members for the selected dimension(s). This is useful if you want to keep the drilled members to rank, create a value filter or perform other analysis.
Reset Dimension	• Resets the selected dimension in the report including; removing the rank, value filters, member selections
Reset Report	• Resets all the dimensions in the report including; removing all ranks, value filters, member selections.

When you click the drop-down arrow Modify Query Menu, a list of choices display.



The **Modify Query Menu** displays the options

NOTE

Value filters and sorts are impacted when you apply Keep Remove options. Since the value filters and sorts apply to the individual dimension or rows and rely upon an individual column tuple, when you remove the column or tuple, the filter and sort are removed. If the column or tuple still exist after a Keep Remove operation, then the value filters and sorts change to remain valid against the same column or tuple. In effect, you can achieve the same results by changing the members in the Select Members dialog box.

Using Keep Only

If you want to keep your selected members in your report, use the Keep Only option. Here's how:

1. Select your server and cube to open your WebIntelligence for OLAP report.
2. Edit your report to present the data you need.
3. Select only the members you want to display by clicking the member name and holding the Control key, then clicking another.

REMINDER

The options apply on a dimension basis. Therefore, if you have more than one dimension on your report and select an individual member from one of the dimensions, all the instances of the selected member within the report are affected.

4. Click the **Modify Query Menu** drop-down arrow and select **Keep Only**.
   Your report refreshes to display only the members you selected.

NOTE

With Microsoft SQL Server Analysis Services and SAP servers, if you perform a Keep Only operation on a calculated member and do not select one or both other members on which the calculated member is based, the calculated member remains in the report.

NOTE

With Essbase servers, if you perform a Keep Only operation on a calculated member, the top level member is added back to the report and the calculated members are removed because they no longer apply. This occurs because the members on which the calculated members are based, must be included in the report.

Using Remove Only

If you want to remove your selected members in your report, use the Remove Only option. Here's how:

1. Select your server and cube to open your WebIntelligence for OLAP report.
2. Edit your report to present the data you need.
3. Select only the members you want to remove by clicking the member name and holding the Control key, then clicking another. Click the **Modify Query Menu** drop-down arrow and select **Remove Only**.
   Your report refreshes to display only the members you did not select.

NOTE

With Microsoft OLAP and SAP servers, if you perform a Remove Only operation where you select one or both members on which a calculated member is based but do not also select the calculated member, the calculated member remains in the report.

TIP

To remove a dimension from the report, simply drag and drop the dimension out of the report. If you remove all the dimensions in your report, then the top level member is inserted to prevent an invalid report in Essbase or Microsoft SQL Server Analysis Services and SAP.

Using Keep All

If you want to keep all the members for the selected dimension, use the Keep All option. Here's how:

1. Select your server and cube to open your WebIntelligence for OLAP report.
2. Edit your report to display the data you need, especially drilling.
3. Select only the members you want to display by clicking the member name and holding the Control key, then clicking another.
4. Click the **Modify Query Menu** drop-down arrow and select **Keep All**.

   Your report refreshes to display only the members you selected.

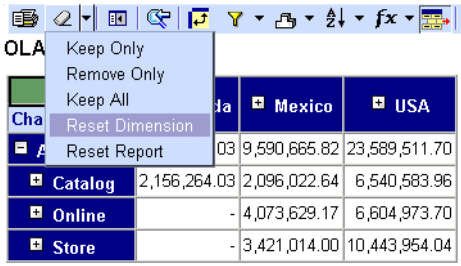
Using Reset Dimension

If you want to reset the dimension to display the top level in your report click the dimension label and select Reset Dimension from the Modify Query Menu. All the value filters, sorts, calculations are removed and refreshed in your report.

Here is a visual presentation of the the three steps.

Customer / Channel	Canada	Mexico	USA
All Channel	2,156,264.03	9,590,665.82	23,589,511.70
Catalog	2,156,264.03	2,096,022.64	6,540,583.96
Online	-	4,073,629.17	6,604,973.70
Store	-	3,421,014.00	10,443,954.04

Step 1: Open your report



*Step 2: Select the dimension to reset and click **Reset Dimension** form the drop-down list*

Customer / Channel	All Customer
All Channel	35,336,441.55
Catalog	10,792,870.64
Online	10,678,602.87
Store	13,864,968.05

Step 3: The resulting report showing All customers without the members

Using Reset Report

When you select Reset Report either by clicking the eraser button or from the Modify Query Menu, both the rows and column dimensions reset to their highest aggregated level and all custom edits, member selections, drills, filters and sorts are removed.

Customer / Channel	All Customer
All Channel	35,336,441.55

Reset Report option results

Using multiple hierarchies and alternate hierarchies

Multiple hierachies provide different paths for navigating through a dimension. For example, you can have multiple hierarchies on the time dimension. One hierarchy may display quarter then month and another hierarchy may display year then week. Both of these hierarchies originate from the same time dimension.

Microsoft SQL Server Analysis Services and SAP BW support dimensions with multiple hierarchies. BusinessObjects and BusinessQuery allow you to split dimensions with multiple hierarchies into separate dimensions. WebIntelligence for OLAP harnesses this by allowing you to use these dimensions in your queries.

For more information on the types of hierarchies, see Types of hierarchy on page 21.

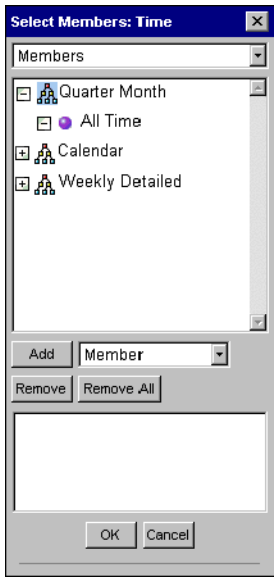
Why multiple hierarchies are useful

A dimension with a multiple hierarchy provides alternate views of the same data from a cube. For example, a multiple hierarchy could also exist for the time dimension on fiscal year and calendar year.

Administrators can create multiple hierarchies and give them unique names. You can then use these hierarchies in your queries. Unless you are aware, you may select two different hierarchies from the same dimension, causing your query to return no data.

Displaying multiple hierarchies

To avoid confusion, WebIntelligence for OLAP displays the hierarchy icon. When you see the hierarchy icon, the members displayed below it belong to the same dimension. The All member is not expanded to save display time.



Select Members dialog box

Microsoft SQL Server Analysis Services Hierarchies

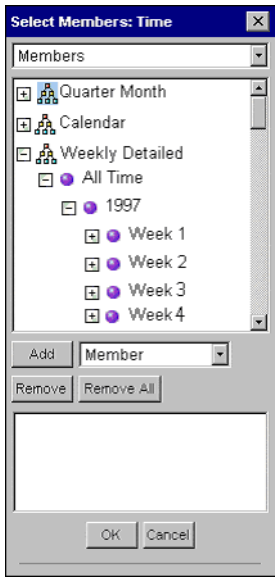
Microsoft SQL Server Analysis Services provides multiple hierarchy support.

This is possible because the server creates a separate dimension for each hierarchy dimension and combines these into a collection under one name. This allows Microsoft SQL Server Analysis Services to consider each hierarchy as if it is a different dimension.

Identifying hierarchy dimensions

Hierarchies appear in the Member Select dialog box. They are defined in your query as two or more dimensions with names that share the same prefix followed by a period but have different suffixes. For example, Time.Fiscal and Time.Calendar.

Hierarchies display as parents of the members represented by a dimension icon.

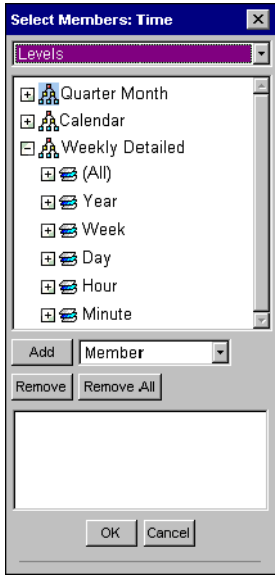


The active hierarchy is highlighted.

The pyramid structure is visible below the hierarchy icon.

You can:

- explore hierarchies by clicking on the plus sign
- select Levels instead of Members in the drop down list box to display levels
- add members or levels under the open hierarchy
- remove members or levels



The Select Members dialog box can display Members and Levels

The icons represent the specific hierarchy status.

- An active hierarchy is highlighted and expanded when you first open the Select Members dialog box.

- Other hierarchies have a transparent display.

When you open another hierarchy, the current hierarchy closes to prevent you from selecting hierarchies from different dimensions.

Identifying split hierarchies in the query panel

You can import reports that contain split dimensions from BusinessQuery MD and BusinessObjects into WebIntelligence for OLAP. BusinessQuery MD and BusinessObjects allow you to treat each hierarchy in a dimension as a separate dimension. Usually, multiple hierarchies appear under one dimension and can be split into separate dimensions.

The name appears on the query panel in the following form:
`<dimension name>.<hierarchy name>`

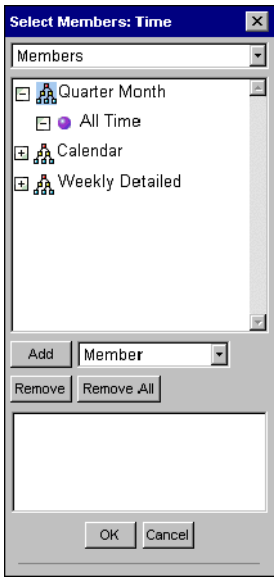
for example, **Time.Quarter Month**

When you open the Select Members dialog box that contains a hierarchy dimension that has been split, the hierarchies do not display and the split hierarchy is treated as a single hierarchy dimension.

Changing the active hierarchy

To change the active hierarchy to another in your query, follow the procedure below:

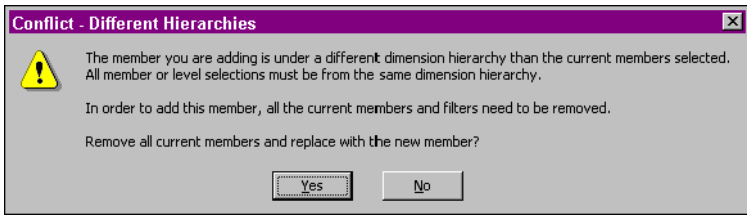
1. Display the query panel.
2. Select the dimension (with multiple hierarchies) to open the Select Members dialog box.



If the hierarchy has not been split, the hierarchies display at the top of the tree and the children of the active hierarchy are visible for all members.

3. Click the inactive hierarchy to explore the other members.
   This does not affect your query results. The first active hierarchy closes while you explore the others.
4. Select a member that you want to make active.
5. Click **Add** to add it to the list of members.
   A message box appears to inform you to remove the current members before the new hierarchy can be added or to replace the currently active hierarchy

with the new one.



SAP/BW hierarchies

SAP provides:

- multiple hierarchy support
- ability to set up prompts in a SAP cube to force you to select specific items for your report

SAP does not provide:

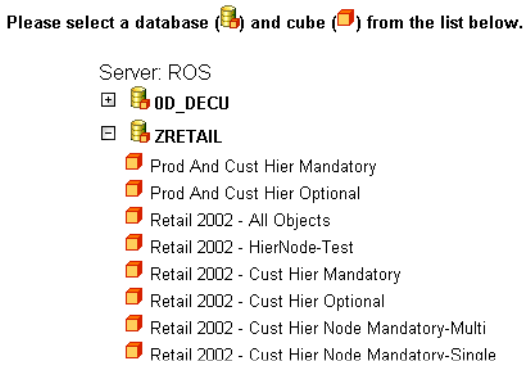
- ability to split hierarchies into separate dimensions

Selecting hierarchies with SAP

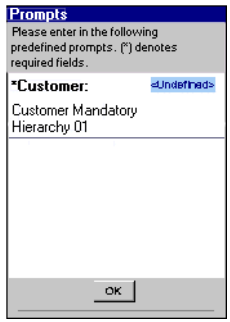
You can only select hierarchies using variables or, prompts. If no hierarchy prompt has been set up then the default hierarchy is used. WebIntelligence for OLAP can support only one prompt on a dimension. Thus you cannot change the hierarchy of a dimension that already has a prompt on it.

To select hierarchies:

1. Select your SAP cube.



2. The prompt dialog box appears.

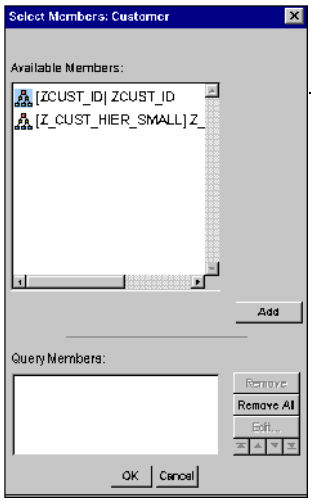


3. Click the **<Undefined>** hyperlink for the required prompts, or click **OK** if not required.

   An asterisk denotes a required field.

   The Select Members dialog appears and displays the hierarchies with the active and inactive hierarchies

4. Double click the members you want to appear in the query from the Select Members dialog box



The All member does not appear with BW variables.

5. Click **OK** to save the changes and refresh the query.

Performing quick and custom calculations

It is now possible to create calculations within the OLAP Panel. Already calculations reside in the cube and results appear when you select the members in your query. Up until now, it was not possible to perform additional calculations that you define as part of the query. Business Objects calls these: *session scoped calculations*. This feature allows you to further analyze your results.

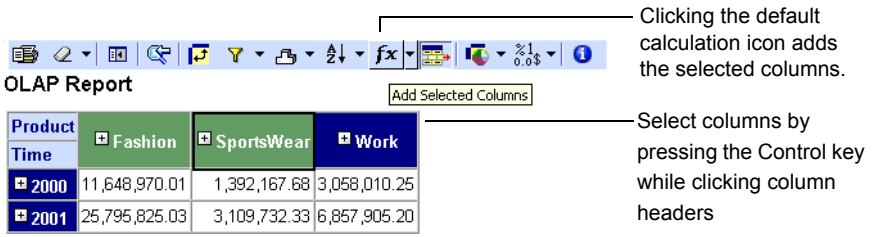
Depending on your OLAP server, you can create two types of session scoped calculations:

- quick calculations using a single function or operator on members or columns
- custom calculations using a custom formula that you create

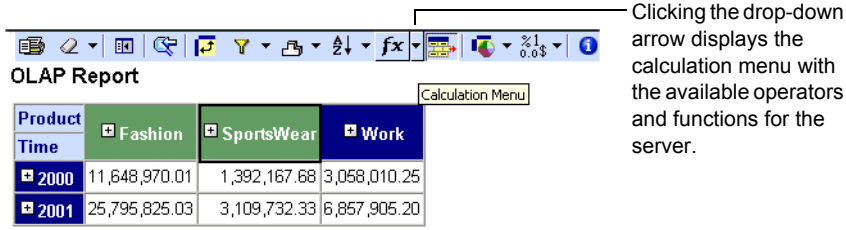
Quick calculations feature overview

From the report grid, you select two or more members within a single dimension in Microsoft SQL Server Analysis Services or two or more columns in Essbase. To perform a quick calculation you can either:

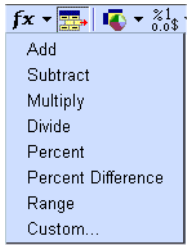
- click the default calculation icon to add the members or columns
- click the drop-down arrow to expose the list of functions or operators available for your server



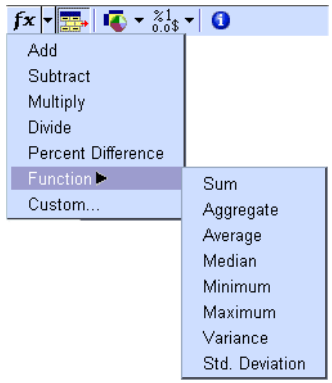
Default calculation icon



Quick Calculation menu contents depends on the server



Available Essbase server quick calculations



Available MS SQL Server Analysis Services quick calculations

The Essbase server and Microsoft SQL Server Analysis Services display different operators and functions

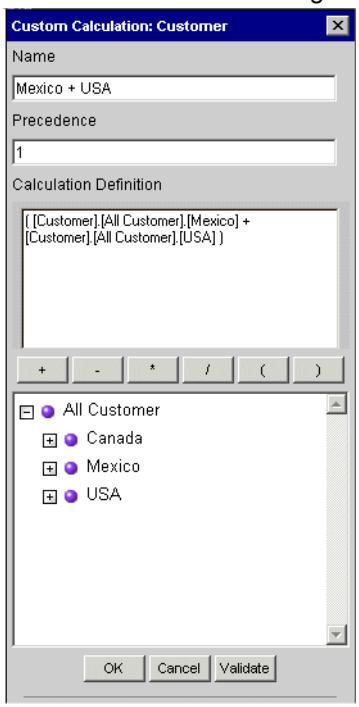
Clicking the arrow displays the quick calculations available for your OLAP server. Depending on your OLAP server, only the relevant operations, operators and functions are available.

Custom calculations feature overview

When you select custom calculations, the Custom Calculations dialog box replaces the Query Panel. There are two reasons to use the custom calculation feature:

- to create more complex calculations that go beyond the capacity of the quick calculation menus, such as formulas that contain more than one operator (A+B-C)/D).
- to edit the calculations created with the quick calculation menu

The Custom Calculation dialog box for Microsoft SQL Server Analysis Services:



Performing calculations with Microsoft SQL Server Analysis Services

Calculations are member based operations. You can choose a set of members and use various operators on them to perform calculations. There are two types of calculations:

- simple operators, such as, addition (+), subtraction (-), division (/), and multiplication (*)
- aggregate functions, such as, sum, minimum, maximum, average, standard deviation, variance, median.

TIP

For full information and further discussion of MDX based calculations there are a number of complete references available. Two specific references are:

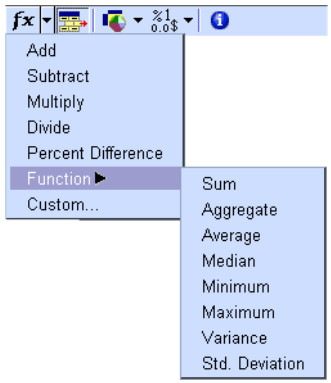
- *Microsoft Olap Solutions*, by Erik Thomsen, et al.;
  Publisher: John Wiley & Sons; Book and CD-ROM edition (September 1999);
  ISBN: 0471332585

- *MDX Solutions: With Microsoft SQL Server Analysis Services*, by George Spofford;
  Publisher: John Wiley & Sons; Book and CD-ROM edition (July 20, 2001)
  ISBN: 0471400467

Once you build calculations, they appear as *qmembers* in your report and can be reused in queries from the qmember list.

The shortcut menu opens when you click the drop-down arrow next to the calculation button. The menu provides:

- simple calculation operations
- function list
- custom calculation command that opens the dialog box

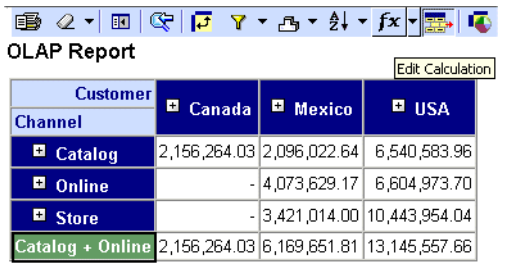


Insert shortcut menu capture

Default calculations with Microsoft SQL Server Analysis Services

A default calculation is performed when you click the Calculations toolbar icon after selecting members in your report. The operation that is performed depends on your selection(s). The following table describes the default operation when you make a selection in the grid.

You select	Default calculation behavior
multiple members from the same dimension in the grid (including calculated members)	members are added
Example: A, then B, then C	**Example result:** A+B+C
a single calculated member in the grid	Custom calculation dialog box opens, allowing you to edit the calculated member
multiple members from different dimensions	An error appears: Please select two or more members (from the same dimension)



The Custom Calculation dialog box appears when you select a single calculated cell and click the Edit Calculation button on the toolbar.

Quick calculations with Microsoft SQL Server Analysis Services

You can select two or more members from a single dimension. The order the of operation for quick calculations depends on the order in which you make your selection.

The following quick calculations are available:

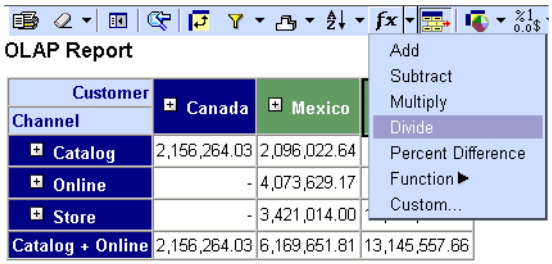
- Add
- Subtract
- Multiply
- Divide
- Percent Difference

NOTE

To perform a percentage difference, you only need to select two members. When you select this type of calculation, only the first two members that you select are used in the expression.

To create a quick division calculation:

1. Click the first member column caption, such as Mexico, then the second member, such as USA in the grid.
2. Click the calculations drop-down arrow on the toolbar and select **Divide**.



Customer / Channel	Canada	Mexico
Catalog	2,156,264.03	2,096,022.64
Online	-	4,073,629.17
Store	-	3,421,014.00
Catalog + Online	2,156,264.03	6,169,651.81

A new calculated member appears in the grid with the default name, *Mexico/USA*.

Customer / Channel	Canada	Mexico	USA	Mexico / USA
Catalog	2,156,264.03	2,096,022.64	6,540,583.96	0.32
Online	-	4,073,629.17	6,604,973.70	0.62
Store	-	3,421,014.00	10,443,954.04	0.33
Catalog + Online	2,156,264.03	6,169,651.81	13,145,557.66	0.94

Function calculations with Microsoft SQL Server Analysis Services

The supported function calculations are:

- Sum
- Aggregate
- Average
- Median
- Minimum
- Maximum
- Variance
- Standard Deviation

These functions produce the following multidimensional expressions (MDX) syntax:

```
Function ({a,b,n...})
```

To create a function calculation:

1. Click the first member column caption, such as Mexico, then the second member, such as USA in the grid.
2. Click the calculations drop-down arrow on the toolbar and select **Function** then one of the functions listed above.
3. The report refreshes and another column or row appears on the report with the result of the calculation.

EXAMPLE

Sum function with Microsoft SQL Server Analysis Services sample cube

```
SUM( { [Education Level].[All Education Level].[Graduate Degree], [Education
Level].[All Education Level].[Partial College] } )
```

This function calculation produced the sum of Graduate Degrees and Partial Degrees.

Custom calculations with Microsoft SQL Server Analysis Services

The table below describes under what circumstances the Custom Calculation dialog box appears.

If you select	Then this occurs
Multiple members from the same dimension in the grid (including calculated members)	Calculates the member on the operator, function you select or displays the custom calculation dialog
Single Dimension from the grid	Opens custom calculation dialog box for that dimension
Single Member from the grid	Opens custom calculation dialog box for that dimension
Single Calculated Member from the grid	Opens custom calculation dialog box allowing you to edit that calculated member
Any other combination of selections	An Invalid selection message appears

Understanding Precedence

If you have calculated members on both the row and column axis of your report, the bottom right corner is the calculated result of these calculations. Understanding and determining the contents of the bottom right cell depends on its precedence. The value that appears is the result of the last evaluated calculation.

You can set the precedence in the Custom Calculation dialog box at the time you create the calculation or by editing the calculation after you create it.

Follow the example below for an example of how to apply precedence:

EXAMPLE

Determining precedence with multiple calculations

You have a report displaying sales dimensions for Channel and Customer.

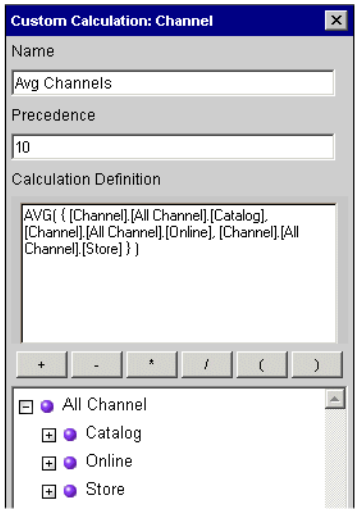
Channel / Customer	Catalog	Online	Store	Average of Catalog, Online, Store
Canada	2,156,264.03	-	-	2,156,264.03
Mexico	2,096,022.64	4,073,629.17	3,421,014.00	3,196,888.61
USA	6,540,583.96	6,604,973.70	10,443,954.04	7,863,170.57
Canada + Mexico	4,252,286.68	4,073,629.17	3,421,014.00	3,915,643.28

You create a calculation to display total for outside US and average for all channels by country.

The bottom right corner displays a number but you are not sure if it is the average of the averages or the average for Canada and Mexico. To be sure, you can set the precedence and determine which calculation result takes precedence.

1. Click the **Average of Catalog, Online, Store** dimension and click **Edit Formula** on the toolbar.

   The Custom Calculation dialog box displays.



2. Enter a new shorter name in the Name text box.
3. Enter 10 in the precedence text box.

   The higher the number the higher the precedence, that is; a low number is solved first and the higher number is solved last. The calculation that is performed last is the one that takes precedence and displays on the grid.

Channel / Customer	Catalog	Online	Store	Avg Channels
Canada	2,156,264.03	-	-	2,156,264.03
Mexico	2,096,022.64	4,073,629.17	3,421,014.00	3,196,888.61
USA	6,540,583.96	6,604,973.70	10,443,954.04	7,863,170.57
Canada + Mexico	4,252,286.68	4,073,629.17	3,421,014.00	3,915,643.28

Entering 10 gives a higher precedence on Avg Channels

Here the result shows the average of all the channels takes precedence because we set

the higher number in the Precedence text box for Avg. Channels.

If you inverse the precedence by editing the calculation Canada + Mexico, and entering 20 in the Precedence text box, the result in the bottom right cell adds the average number for Canada and Mexico, shown below.

Channel / Customer	Catalog	Online	Store	Avg Channels
Canada	2,156,264.03	-	-	2,156,264.03
Mexico	2,096,022.64	4,073,629.17	3,421,014.00	3,196,888.61
USA	6,540,583.96	6,604,973.70	10,443,954.04	7,863,170.57
Canada + Mexico	4,252,286.68	4,073,629.17	3,421,014.00	5,353,152.64

Entering a higher number (20) gives a higher precedence on Canada + Mexico

Here we changed the precedence to calculate Canada + Mexico last so the number in the bottom corner displays the sum of Average Canada + Average Mexico.

Performing calculations with Essbase and DB2 OLAP

When you use an Essbase server, you perform calculations on:

- tuples, not on members
- columns, not on rows

TIP

For complete information on Essbase/DB2OLAP report script calculations, there are several references available. You can start by referring to the information provided in the Essbase/DB2 OLAP documentation that came with your database product. It is particularly important to know how to create properly formatted report scripts if you are creating custom calculations.

Quick calculations with Essbase and DB2 OLAP

As with Microsoft SQL Server Analysis Services, when you click the toolbar function icon, the selected dimensions are added.

To perform quick calculations, you need to click the drop-down arrow.

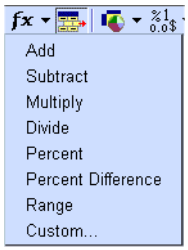
To create a quick calculation:

1. While pressing the Control key, select two or more columns from a single dimension.

The order that you select the columns determines the calculation order.

Product / Time	Fashion	SportsWear	Work
2000	11,648,970.01	1,392,167.68	3,058,010.25
2001	25,795,825.03	3,109,732.33	6,857,905.20

2. Click the drop-down arrow and choose a single function or operator, for example **Percent Difference**.



The calculation is performed and the result displays in another column in the report grid.

Product / Time	Fashion	SportsWear	Work	Percent difference of Fashion and SportsWear
2000	11,648,970.01	1,392,167.68	3,058,010.25	0.88
2001	25,795,825.03	3,109,732.33	6,857,905.20	0.88

To edit the text that appears in the new column heading:

1. Click the new column heading, then click the **Calculation** icon to display the Custom Calculation dialog box.
2. Enter the text changes in the **Name** text box.
3. Click **OK** to save your changes and regenerate the grid.

Custom calculations

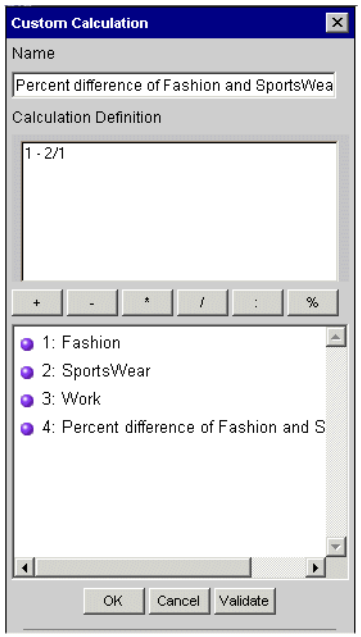
To create a more complex or custom calculation, you can either edit an existing calculation or make another column selection by pressing the Control key.

1. Once you have your selection, click the drop-down arrow from the

Calculation icon on the toolbar and select **Custom**.

The Custom Calculation dialog box displays with:

- a complete Calculation Definition containing the formula you are editing
- a blank Calculation Definition if you have made a new selection.



Essbase server Custom Calculation dialog box

Dimension members are represented by numbers here. This makes the calculation definition easier to understand.

NOTE

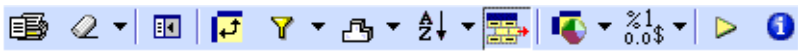
No precedence box appears with the Essbase server as with the Microsoft SQL Server Analysis Services.

2. Enter a name for the custom calculation in the Name text box.
3. Double-click the members and operators to construct your formula.
4. When you have completed your custom calculation, do one of the following:
   - Click **OK** to save your custom calculation and regenerate your report.
   - Click **Cancel** to abandon your changes and return to the report as it was.
   - Click **Validate** to test your calculation before regenerating the report.

Performing calculations with SAP/BW

Member calculations are not supported with SAP/BW servers.

When you use a SAP/ BW server, the Calculations icon does not appear in the toolbar.



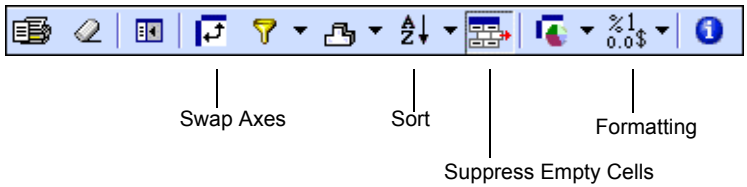
Formatting Your Report

chapter 5

Overview

You can change the formatting of a WebIntelligence for OLAP data sources report to make it easier to read.

This chapter describes how to use the features available to change the format of your report. It also explains the toolbar buttons shown below:



The topics covered are:

- Changing report grid layout
- Formatting measures
- Sorting
- Suppressing empty cells
- Indenting
- Alias tables
- Building in report exceptions
- Making multiple selections

Changing report grid layout

You can change your report grid layout by:

- swapping the position of all the rows with all the columns
- swapping the position of one dimension with another dimension
- moving a dimension to another position

NOTE

If you are using an Essbase/DB2 OLAP server, and you have previously drilled in the document, making any changes to dimension positions removes the drilling from the document. The only exception is if you add a new dimension to the existing dimensions on the rows or columns. In this case, the drilling remains. When you swap axes using an Essbase/DB2 OLAP server, any ranking, value filtering, and sorting applied to the rows disappears, as you cannot apply these features to column dimensions.

Swapping dimensions

Swapping all rows and columns rotates the table. If there are multiple dimensions on an axis, WebIntelligence maintains the relative position of each of the dimensions.

You can also swap one dimension with another on the same axis.

▶ Swapping all dimensions on columns and rows

To swap the position of all the rows with all the columns:

- Click the **Swap Axes** button on the toolbar.
  The original row and column dimensions are interchanged.

▶ Swapping one dimension with another

To swap the position of two dimensions:

1. Move your cursor to either the axis dimension label or to a member of one of the rows or columns you want to swap.
2. When the cursor changes from an arrow to a hand, drag the selected item to its new axis location.
3. When your cursor again changes from an arrow to a hand in the new position, drop the selected item.
   The item displays to the right of the dimension over which it was dropped.
4. Repeat steps 1-3 to move the second dimension to the original location of the

first dimension you moved.

NOTE

If you are using an SAP BW or Essbase/DB2 OLAP server, and you have previously created a member filter, moving the filtered dimension off the report does the following: it removes the filter, *if* the filter contains more than a single member.

Moving dimensions

You can move a dimension to another position in a report.

Moving dimensions in a row or column

To move a dimension to another position:

1. Move your cursor to either the header of the row or column, or to a member of the row or column you want to move.
2. When the cursor changes from an arrow to a hand, drag the selected item to where you want to position it.
3. When your cursor again changes from an arrow to a hand in the new position, drop the selected item.

   The item displays to the right of the dimension over which it was dropped.

NOTE

If you select the last dimension on the column and remove it from the column, then the measure for your report is moved to the column. On an Analysis Services or SAP BW server, you may move the last dimension from the column. On an Essbase/DB2 OLAP server, this is not allowed.

Formatting measures

You can customize the default measure formatting that appears in your report. Some data providers do not provide the formatting you require to display your data in a meaningful way. WebIntelligence for OLAP allows you to format the numeric data or measures.

Using any of the three OLAP servers, you can modify your measures to:

- include a currency symbol
- display a currency symbol other than the default symbol
- display as a percentage
- display different numbers of decimal places
- display long numbers without a thousands separator symbol

NOTE

You cannot format all the measures in a report at once. You must specify each one you want to format.

Formatting choices do not include:

- Fonts
- Size
- Specific character formats such as bold or italic

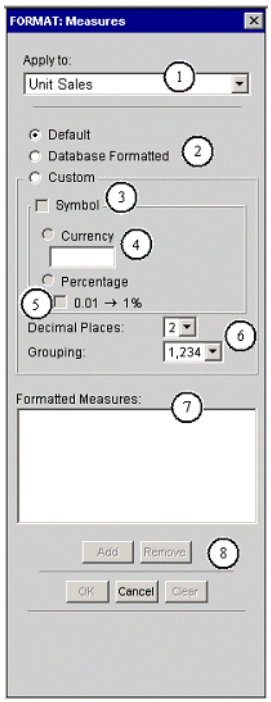
If no formatting is specified the default formatting is used. The WebIntelligence for OLAP server administrator sets up the default format setting.

This servers	Allows formatting?
MDX data provider (Microsoft SQL Server Analysis Services / SAP)	• Contains a database format option. • You can select this option.
Essbase/DB2 OLAP data providers	• Contains no database format choice • Settings are retained from the database

Formatting a measure

To format a measure:

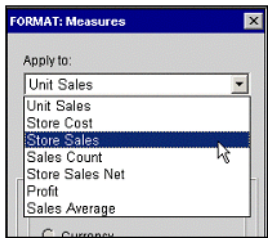
1. Open your report.
2. Click **Measures** from the **Format** menu.
   The Format Measures dialog box appears.



Sample of an MDX format editor with one measure and no format setting

1. The list box under Apply to is populated with members found in the Measures dimension. If you first select a measure in the report, this will reflect the selection. Otherwise, the list box displays *Select a Measure*.
2. Available format options.
   The Database Formatted option is hidden for Essbase servers.
3. If you select Custom option, the Symbol check box is enabled.
4. If you click the Symbol check box, then the Currency and Percentage options are enabled along with their dependents the currency text box and the percentage conversion check box. Both dependents are empty until you set them.
5. The percentage conversion check box to alter magnitude.
6. The Decimal Places option allows you to set the number of decimal places. The Grouping option allows you to set the grouping choice.
7. The Formatted Measures list box displays the list of defined format settings. A setting is defined if it is not the default one. There can only be one setting per measure.
8. The buttons to manage the list of defined format settings and the dialog box.

3. Select the measure you want to format from the drop-down list under Apply to.



For more information on the measures that appear, see Understanding the measures in the drop-down list on page 150.

NOTE

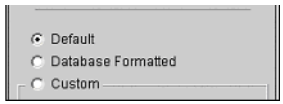
You can define or edit the format settings for the displayed measure. You can also define format settings for measures that may be uncovered during the selection.

For example, you have a report that was created on the Essbase/DB2OLAP data provider, that allows a hierarchical structure in the measure dimension. If you define a format setting for a measure that is a second-generation child and its ancestor is present in the report, and you drill down to the measure with the defined format setting, the numeric formatting displays.

When you select a measure that has a format setting the corresponding item in the Formatted Measures list box highlights and the setting editor reflects the format setting.

4. Define the format options as shown above.
5. Define a format setting by first selecting from the format options.

   Format options vary by data source providers.

Data source provider	Available options
MDX	three choices  In addition to Default and Custom, you can choose to format measures using the database format so that your report displays data using the database-specific measure format.
Essbase/DB2 OLAP	two choices 

The dialog controls are sensitive to the choice of the format option:

- If no format setting exists for the selected measure and you choose an option other than the default, then the Add and OK buttons are enabled.
- If there is a format setting for the selected measure, the setting editor

displays the format setting and the Add button caption changes to Change.

- When you change the formatting option in the setting editor the Change button is enabled.

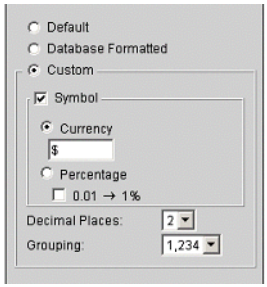
6. If you selected **Custom**, continue the procedure, see Custom formatting on page 148.

Custom formatting

Once you click the Custom option, you have additional choices for adding symbols to the measure format. The Symbol check-box is enabled when you click the Custom option. You can select either Currency or Percentage option under Symbol.

Focusing on either the currency option or the Percentage conversion option selects the relative parent option.

1. Click the **Currency** option.



The default currency symbol specified in your local settings displays in the text box. The position of the currency symbol defaults to the characteristic of the locale.

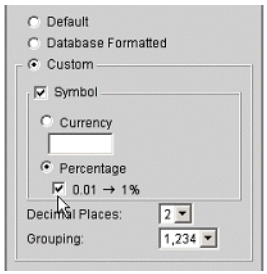
For example, the position of the English Canadian dollar symbol is to the left of a number without a space separation but for French Canadian dollar symbols it is to the right with a space separation.

2. Overwrite the default value with your own symbol if you require.

NOTE

The entry is truncated to six characters once the text box loses focus. If a currency symbol already has been placed in the text box, and then you select the Percentage option, then the value of the text box is still visible but disabled.

3. Click the **Percentage** option.
   The % symbol is universal so does not change according to your locale.



TIP

You can alter the magnitude of the measure by clicking the percentage conversion option. You need to consider this very carefully. This feature cannot distinguish if the measure is retrieved with the appropriate magnitude, thus this option can significantly impact the context of the report.

4. Select the number of decimal places from the drop-down list box next to Decimal.
5. Select the grouping form the drop-down list box next to Grouping.
6. Click **OK** to save the formatting edits and generate the report.

Saving the format setting

There are two levels of persistence covered in this section:

- session
- report

The report level persistence implies that unless you save the report, all current session setting changes are lost.

When you open the report from the repository, or file system location, it is generated with the format settings persisted at the report level via the Report Settings facility.

The session level persistence involves consideration of whether a format setting exists for a measure and whether it has changed during the current session. .

To	Do this
Change the default setting when no format setting exists, and the measure format is set to the default	Click **Add** **Note**: The Add button changes to Change when you select an enabled formatted measure when the editor setting differs from the current setting.
Change the format when a setting already exists	Click **Change**
Remove current format settings for enabled formatted measures	Click **Clear**
Remove an individual format setting when you select a formatted measure	Click **Remove** The button is enabled when you select the formatted measure. This is equivalent to resetting to the default format options.

7. Click one of the following buttons:
   - **OK** to carry out the same behavior as the enabled Add or Change buttons. and the dialog box closes.

     If the Add and Change buttons are not enabled, then the dialog closes. The Report Settings update based on the new format settings and the report displays.
   - **Cancel** or the Close to close the dialog and discard the Report Settings.

     The report does not refresh and appears as it was before you opened the dialog box.
   - **Clear** to close the dialog and remove all existing Report Settings and refresh the report.

     The Query Panel appears when the dialog box closes.

▶ Understanding the measures in the drop-down list

When the dialog opens the choice of the measure in the drop-down is based on the following considerations:

- the presence of a grid selection
- the axis assignment of the measure dimension
- the membership of the query members' list

Use the table below to understand how measure selections are evaluated:

If	Then
your selection falls within the grid	the coordinates of the anchor are considered first in helping identify the measure using the anchor in the case of multiple selections provides clear feedback to you to allow you to audit your actions.
you assign the measure dimension to the page axis	then you can use the page member selector. This can be set as the default when there is no query members' list membership.
you assign the measure dimension to the filter axis	then the first member in the query members' list is used. This reflects the data access layer (OM) behavior in the query.
you do not select any members in the query members' list, regardless of the axis assignment	the default member is used

The Setting Editor displays the chosen measure's format setting if one exists.

Viewing the result with formatted measures

Here are two examples of reports that were updated:

Measures / Education Level	Store Sales	Sales Count	Sales Average
Bachelors Degree	145,505.41	22,413.00	6.49
Graduate Degree	32,896.19	5,082.00	6.47
High School Degree	166,739.64	25,462.00	6.55
Partial College	52,359.19	8,009.00	6.54
Partial High School	167,737.70	25,871.00	6.48

Before

This shows a report with three measures on the column axis. The default format is used in rendering all the measures.

Measures / Education Level	Store Sales	Sales Count	Sales Average
Bachelors Degree	$145,505.41	22,413	6.49%
Graduate Degree	$32,896.19	5,082	6.47%
High School Degree	$166,739.64	25,462	6.55%
Partial College	$52,359.19	8,009	6.54%
Partial High School	$167,737.70	25,871	6.48%

After

Each measure now displays more meaningful formatting.
The Store Sales measure appears with a currency symbol.
The Sales Count appears as whole units, without fractions.
The Sales Average appears as a percentage.
No conversion was applied here because we don't have any knowledge of the measure's magnitude.

Number handling policies

The following table details how the application treats large numbers:

If	Then
The data type for a number returned from the server is double (default type of number)	For numbers greater than or equal to 1E+13, the application displays that number in scientific format. Where 13 is determined by Number of Significant Digits {15} minus the number of decimal places to show {2}
The data type for a number returned from the server is currency	The application displays all the digits (as there is a maximum of 15 to the left and four to the right of the decimal place), so they do not need to be displayed in scientific format,
You select to see data for a measure as currency, and the actual data type is double	Numbers larger than 1E+13 display in scientific format without the currency symbols
Numbers that cannot display with desired format, or in scientific format	Display an error.

TIP

Testing shows that number overflows are not detected for the currency data type, the value returned to the grid is negative 922,337,203,685,477.5808. Double overflows are returned as an error number in Canadian English they appear as 1.#NFE+0 in the grid, but appear in a different format based on the server's locale.

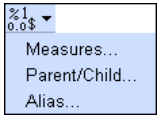
Currency symbols

You can add and change currency symbols on a measure in your report.

Adding a currency symbol

To add a currency symbol to a measure:

1. On the toolbar, click the Formatting drop-down arrow.
   The Formatting Menu appears:



2. Select **Measures**.
   The Format Measures dialog box appears.
3. Select the measure you want to format from the drop-down list under Apply to.
4. Click **Custom**.
5. Select the Symbol check box.
6. Click **OK**.
   Your report displays the default currency symbol to the left of your measures.

Changing a currency symbol

To change a currency symbol on a measure:

1. On the toolbar, click the Formatting drop-down arrow.
   The Formatting Menu appears.
2. Select **Measures**.
   The Format Measures dialog box opens.
3. Select the measure you want to format from the drop-down list under Apply to.
4. Click **Custom**.
5. Select the Symbol check box.
6. Enter a valid currency symbol in the Currency box.
7. Click **OK**.
   Your report displays the new currency symbol to the left of your measures.

Displaying measures as a percentage

You can display measures as percentages. This is particularly useful, for example, for displaying profits and ratios. You can display measures as ratios or percentages.

Converting measures to percentages

To express measures as percentages:

1. On the toolbar, click the Formatting drop-down arrow.
2. Select **Measures**.
   The Format Measures dialog box opens.
3. Select the measure you want to format from the drop-down list under Apply to.
4. Click **Custom**.
5. Select the Symbol check box.
6. Click **Percentage**.
7. Click **OK**.
   Your report displays all measures as percentages.

Converting ratios to percentages

The effect of this option is to multiply your measure by 100. It is particularly useful for displaying ratios between zero and one.

To convert ratios to percentages:

1. On the toolbar, click the Formatting drop-down arrow.
2. Select **Measures**.
   The Format Measures dialog box opens.
3. Select the measure you want to format from the drop-down list under Apply to.
4. Click **Custom**.
5. Select the Symbol check box.
6. Select the 0.01 -> 1% check box.
7. Click **OK**.
   Your report displays all ratios as percentages.

Changing decimal display in measures

You can change the decimal display of measures in a report.

Changing decimal display

To change the decimal display of measures in your report:

1. On the toolbar, click the Formatting drop-down arrow.
2. Select **Measures**.
   The Format Measures dialog box opens.
3. Select the measure you want to format from the drop-down list under Apply to.
4. Click **Custom**.
5. From the Decimal Places drop-down list, select the number of decimal places you want to appear in your report measures.
6. Click **OK**.
   Your report displays measures with the decimal display you selected.

Changing the display of number grouping

You can display long numbers with or without a thousands separator symbol. For example, you can choose between displaying a measure as 456,789.22 and displaying it without a separator as 456789.22. By default, long numbers are displayed with thousands separator symbols.

Removing the thousands separator

To remove the default thousands separator display for large numbers:

1. On the toolbar, click the Formatting drop-down arrow.
2. Select **Measures**.
   The Format Measures dialog box opens.
3. Select the measure you want to format from the drop-down list under Apply to.
4. Click **Custom**.
5. From the Grouping drop-down list, select the number that displays without a thousands separator.
6. Click **OK**.
   Your report displays large measures without thousands separators.

Removing measure formatting options

You can remove any or all formatting options you have applied to a measure in your report.

Removing individual measure formatting options

To remove specific measure formatting options from your report:

1. On the toolbar, click the Formatting drop-down arrow.
2. From the drop-down menu, select **Measures**.
   The Format Measures dialog box opens.
3. Select the measure you want to format from the drop-down list under Apply to.
4. Unselect the formatting option(s) you want to remove.
5. Click **OK**.
   Your report no longer displays the unselected formatting option(s).

Removing all measure formatting options

To remove all measure formatting options from your report:

1. On the toolbar, click the Formatting drop-down arrow.
2. From the drop-down menu, select **Measures**.
   The Format Measures dialog box opens.
3. Select the measure you want to format from the drop-down list under Apply to.
4. Click **Clear** to remove all formatting options.
   The Custom option button clears. The default option button is selected.
5. Click **OK**.
   Your report data displays the default measure formatting.

Sorting

Sorting lets you view your data in a specific order. Unlike ranking, it does not restrict the data displayed in the report, it only changes the order.

NOTE

When your report contains rows with nested dimensions, all sorting is done using data from the innermost row dimension.

Sorting on an Essbase/DB2 OLAP or SAP BW server

If you are using an Essbase/DB2 OLAP or SAP BW server, you can sort numerically by values for one column in the report.

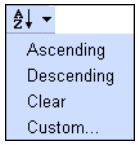
NOTE

An SAP BW server always sorts the data of the column that is the top level for the dimension. This is the default member. The server sorts the data for the default member, even if the default member is not included in the report.

Adding a numeric sort

To add an ascending or descending numeric sort to column values in your report:

1. Select the column you want to sort. You must select a column even if the report contains only one column.
2. 
On the toolbar, click the Sort drop-down arrow.
The Sort menu appears:



3. From the Sort menu, select **Ascending** or **Descending**.
The column displays sorted data.

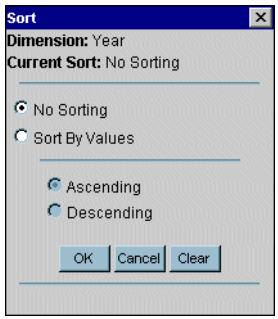
Adding a custom sort

If you are using an Essbase/DB2 OLAP or SAP BW server, the only type of custom sort available is the database order, or "No Sorting" option. Selecting this option has the effect of clearing any numeric sorts you applied to your report.

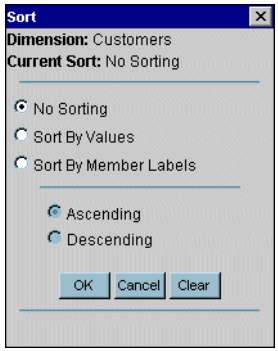
To add a custom sort:

1. Select the column you want to sort. You must select a column even if the report contains only one column.
2. On the toolbar, click the Sort drop-down arrow.
   The Sort menu appears.
3. From the Sort menu, select **Custom**.
   The Sort dialog box appears:

Sort dialog box for Essbase/DB2 OLAP



Sort dialog box for SAP BW server



4. Click **No Sorting**.
5. Click **OK**.
   Your report data displays without a sort.

Removing sorts

To remove a sort from your report:

1. Select the column from which you want to remove a sort. You must select a column even if the report contains only one column.
2. On the toolbar, click the Sort drop-down arrow.
   The Sort menu appears.
3. From the Sort menu, select **Clear**.
   Your column data displays without a sort.

Sorting on an Analysis Services server

If you are using an Analysis Services server, you can sort:

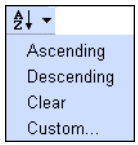
- by the database default (no sorting)
- by value for a column in the report
- alphabetically by member label

You can sort by value for a column either by number or by percentage. Member labels are the names displayed for members in a report. If the report contains more than one dimension on the row axis, sorting by member label always sorts on the innermost dimension.

▶ Adding a numeric sort

To add an ascending or descending numeric sort to column values in your report:

1. Select the column you want to sort. You must select a column even if the report contains only one column.
2. On the toolbar, click the Sort drop-down arrow.
   The Sort menu appears:

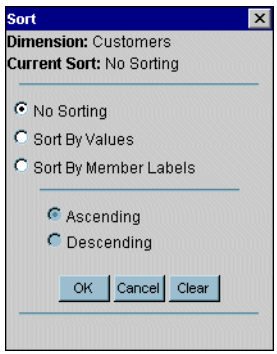


3. From the Sort menu, select **Ascending** or **Descending**.
   Your column displays sorted data.

Sorting rows by member labels

To sort a row by a member label:

1. Select a column in the report. You must select a column even if the report contains only one column.
2. On the toolbar, click the Sort drop-down arrow.
   The Sort menu appears.
3. From the Sort menu, select **Custom**.
   The Sort dialog box appears:



4. Click **Sort by Member Labels**.
5. Click either **Ascending** or **Descending**.
6. Click **OK**.
   The member labels for the innermost row dimension of your report appears in the alphabetical order you selected. The report column(s) display(s) data according to the alphabetical sort you selected.

Removing sorts

To remove a sort from your report:

1. Select the column from which you want to remove a sort. You must select a column even if the report contains only one column.
2. On the toolbar, click the Sort drop-down arrow.
   The Sort menu appears.
3. From the Sort menu, select **Clear**.
   Your column data displays without a sort.

Suppressing empty cells

Suppressing empty cells reduces the size of the report by only displaying relevant information.

A toggle button controls whether empty cells are shown or hidden in a WebIntelligence OLAP report.

When the button is raised, the report displays empty cells. When the button is depressed, the report does not display empty cells. The default setting is to hide the empty cells. If the button is depressed (to hide empty cells) a column or row is hidden only if it is completely empty. If the column or row contains even one non-zero value, then the column or row is displayed.

Indenting

Indenting rows in a report can make it easier to navigate through report data.

Using the indent option

The indent option controls whether the names of children of an item on a report row are indented from the parent. The default setting is to indent the children. Indenting applies only to report rows, not to columns.

Rows not indented

Product / Year	100	200
Jan	2,355.00	2,141.00
Feb	2,329.00	2,323.00
Mar	2,364.00	2,257.00
Qtr1	7,048.00	6,721.00
Qtr2	7,872.00	7,030.00
Qtr3	8,511.00	7,005.00
Qtr4	7,037.00	7,198.00

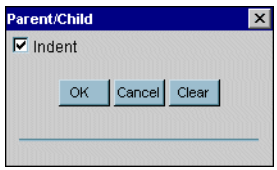
Rows indented

Product / Year	100	200
Jan	2,355.00	2,141.00
Feb	2,329.00	2,323.00
Mar	2,364.00	2,257.00
Qtr1	7,048.00	6,721.00
Qtr2	7,872.00	7,030.00
Qtr3	8,511.00	7,005.00
Qtr4	7,037.00	7,198.00

▶ Removing indenting

To remove the default indenting from your report:

1. On the toolbar, click the Formatting drop-down arrow.
2. From the drop-down menu, select **Parent/Child**.
   The Parent/Child dialog box opens:



3. Clear the Indent check box to unselect the Indent option.
4. Click **OK**.
   The rows in your report no longer display indented data.

Alias tables

An alias table lets you display member names in different languages, or display one set of names to users and a different set of names to the database administrator.

NOTE

Alias tables are only available on Essbase/DB2 OLAP servers. Each alias table is a set of alternate names for the dimensions, levels, and members. You can only include one alias table per report.

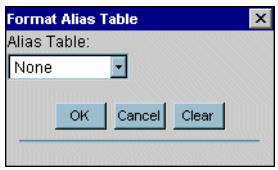
Changing the alias table

You can change the alias table for your report:

▶ Changing alias names

To change the alias table:

1. On the toolbar, click the Formatting drop-down arrow.
2. From the drop-down menu, select **Alias**.
   The Format Alias Table dialog box opens:



3. Click the drop-down arrow of the Alias Table list box, then select the appropriate Alias from the list.
4. Click **OK**.
   Your report data displays with the selected Alias names.

Building in report exceptions

You can highlight certain data in your report using the Exception feature. Similar to alerters in BusinessObjects reports, WebIntelligence for OLAP allows you to set up condition-based evaluation criteria. The process to building exceptions/alerters is:

What	Where	How
Define an exception criteria	in the Exceptions dialog box	• Click Exceptions from the Format menu
Select a measure	in the Exceptions dialog box, exception editor	• Click the drop-down list of available measures under Measure
Build an expression	in the Exceptions dialog box, exception editor	• Click the drop-down arrow and select an operator under Value • Enter a value or values in the text box(es)
Select a format	in the Exceptions dialog box	• Click the drop-down arrow next to Foreground and select a color • Click the drop-down arrow next to Background and select a color
Save the exception	in the Exceptions dialog box	• Click Add

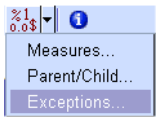
Once you open and refresh a report that contains exceptions you can:

- add an exception
- edit an exception
- enable an exception
- disable an exception
- remove an exception

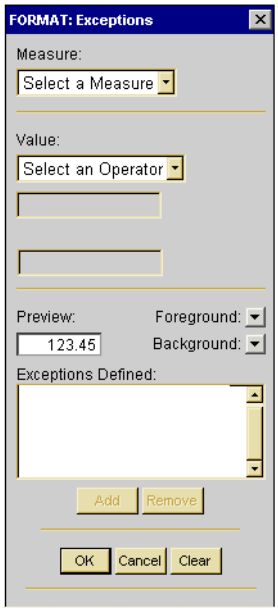
Defining exception criteria

To define an exception for your report, you need to define the criteria on which the exception is evaluated. To do this:

1. Open your report.
2. Select **Exceptions** from the **Format** drop-down menu on the toolbar.

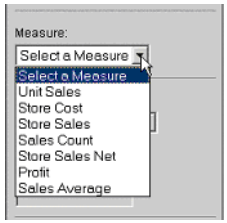


The Exceptions dialog box opens.



3. Click the drop-down list under Measure and select one of the available measures on which you want the exception to be determined.

   For more information on how the measure is identified, see Identifying measures on page 172.



NOTE

The measures that display correspond to a flat list of the members found in the Measures dimension.

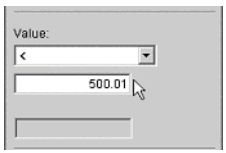
4. To build the expression, click the drop-down list under Value to select an operator.

   Operator choices are:

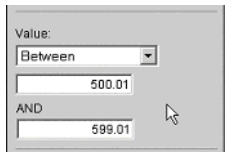
   - =
   - <>
   - >
   - >=
   - <
   - <=
   - Between
   - Not Between

NOTE

One input control box is enabled if you select any of the operator symbols. Two input control boxes are enabled if you select Between or Not Between.



If you select a simple operator, the right input control is enabled



If you select a binary operator, both input controls are enabled. The logical AND caption is enabled. The input control after the AND caption is the left value.

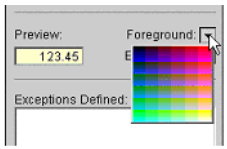
5. Enter the appropriate number in the input control box(es) or click the value cell in the report grid.

NOTE

The value that appears in the input control box is derived from the source and is therefore precise. Although you select the value from the report grid, the value that appears does not take into consideration formatting or rounding formats.

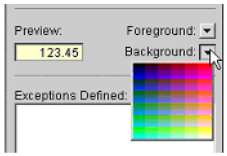
---

6. Select a highlight color for the foreground by clicking the drop-down color box next to Foreground.



The color palette appears.

7. Select a highlight color for the background by clicking the drop-down color box next to Background.

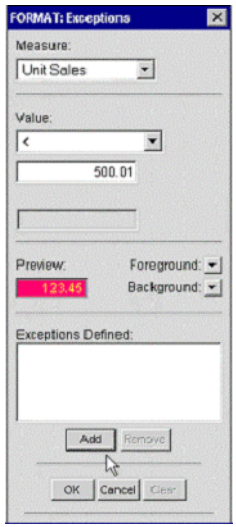


The color palette appears and the Preview box displays your choices.

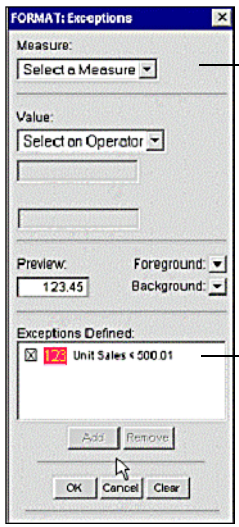
NOTE

Once you set the Foreground and Background, you cannot return to the default settings. If you want to revert to the default style, you can Disable or Remove the exception and start over.

8. Click **Add** to add the exception definition to the list in the Exceptions Defined list box.



The check box is clicked and the format preview displays along with the caption name that shows the measure name, the operator and input values.



Measure resets to display *Select a Measure* to allow you to add another exception.

Exception added in report

NOTE

This definition can be edited, see Editing exceptions on page 174.
After you change or add a setting, the drop-down list under Measure resets to display Select a Measure.

9. Click **OK** to generate the report using the new exception.

	Education Level	Bachelors Degree	Graduate Degree	High School D
Measures	Product			
Unit Sales	Baked Goods	1,933.00	500.00	2,3
	Baking Goods	5,456.00	1,278.00	5,8
	Breakfast Foods	885.00	144.00	1,0
	Canned Foods	4,914.00	1,202.00	5,4
	Canned Products	502.00	114.00	5
	Dairy	3,195.00	822.00	3,8
	Deli	2,861.00	685.00	3,6
	Eggs	1,068.00	247.00	1,2
	Frozen Foods	6,937.00	1,540.00	7,9
	Meat	456.00	101.00	5
	Produce	9,640.00	2,158.00	10,9
	Seafood	430.00	101.00	5
	Snack Foods	7,898.00	1,700.00	9,1
	Snacks	1,799.00	378.00	2,0
	Starchy Foods	1,391.00	285.00	1,4
Store Cost	Baked Goods	[illegible]	425.39	1,9
	Baking Goods	4,150.60	[illegible]	4,4
	Breakfast Foods	[illegible]	135.01	[illegible]
	Canned Foods	4,166.76	[illegible]	4,6
	Canned Products	365.24	74.05	4
	Dairy	2,986.95	[illegible]	3,6
	Deli	2,352.96	559.87	3,0
	Eggs	[illegible]	215.77	[illegible]
	Frozen Foods	5,651.26	[illegible]	6,6

A partial view of a report that was updated with exceptions on all measures

Adding other exceptions to your report

To create another exception in your WebIntelligence for OLAP report:

1. Follow the same procedure as detailed in Defining exception criteria on page 165.

2. Use the table below to determine how the application handles your exception.

Click	To
Add	• Validate and save your current exception definition. • Add a new caption and preview of the exception to the Exceptions Defined list.
Cancel	• Abandon your changes. • Maintain only the exception definitions that appeared in the Exceptions Defined list box before you opened the Format Exceptions dialog box. • Return to the session as it was before you opened the dialog box.
Change	• Save the changes you entered for the selected exception definition. TIP *The Change button is enabled as soon as you change the definition of the selected exception.*
Clear	• Remove all the exception definitions in the Exceptions Defined list. TIP *The Clear button is enabled when one or more exceptions appear in the Exceptions Defined list box.* • Display the Query Panel when you close the dialog box.
OK	• Save the list of exceptions in the Exceptions Defined list to your report settings. TIP *If you click OK before Add, your current exception definition saves to the Exceptions Defined list box. This has the same result as if you click Add then OK.* • Close the dialog box. • Update the report with the list of exceptions.

Identifying measures

You can define exceptions for the displayed measures but can also define exceptions for measure that may be displayed while you build the exception.

TIP

Essbase/DB2 OLAP servers allow hierarchical structures in the measure dimension. If you define an exception for a measure that is a second-generation child and its ancestor is in the report, you can drill down to the measure with the exception defined, the highlighting that is applied to that exception is also exposed.

When you open Exception dialog box, the measures that display in the drop-down list box are based on the following considerations.

- the grid selection
- the axis to which the measure is assigned
- the membership of the query members' list

If	Then
there is a selection in the grid	the coordinates of the anchor are considered first, before identifying the measure. *If you have multiple selections the anchor serves to help you audit your actions.*
the measure dimension is assigned to the c	you use what is displayed in the page member selector. *This can be the default when there is no query members list membership*
the measure dimension is assigned to the filter axis	the first member in the query members' list is used.
there are no members selected in the query members' list, regardless of the axis assignment	the default member is used

Executing an exception

Once you have defined an exception, you can execute the report to take into consideration the exception. You can also Change or Remove any exceptions

To execute the exceptions:

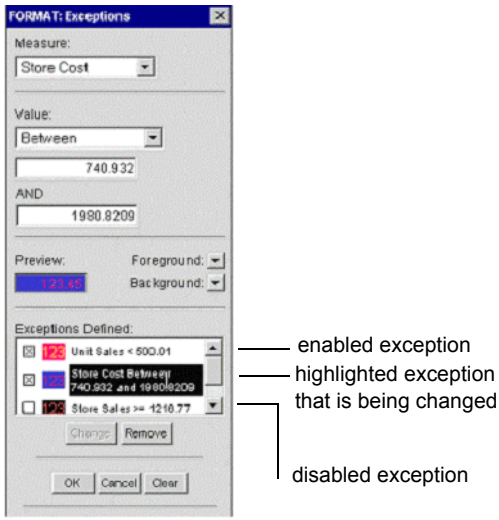
1. Click the check boxes next to the exception captions in the Exceptions Defined box that you want to execute.
2. Click **OK**.

   The report generates with the exceptions you selected.

   To edit the exceptions that appear on the Exceptions Defined list, see Editing exceptions on page 174.

Opening reports with exceptions/alerters

When you open and refresh a WebIntelligence for OLAP report, the exception highlighting feature evaluates each value for each visible measure (in the grid) and applies the formatting characteristics defined in the exception. Non-visible exceptions are also evaluated but do not require formatting since they do not appear on the grid.



Enabling exceptions

By default, the exceptions that have been added to the report are enabled. If the check box is not enabled (shown by the X), you can enable it by clicking the check box next to the caption for the exception definition.

Disabling exceptions

To disable the exceptions in your report:

1. Click **Exceptions** from the **Format** menu.
   The Format Exceptions dialog box displays.
2. Click the check boxes next to the exception caption under Exceptions Defined list box that you want to disable. The check box is empty.

Editing exceptions

You can build several exceptions into your report, even if the measure is not shown in the report. All the exceptions are listed in the Exceptions Defined list box. When you create a new exception, you click Add to add it to the Exceptions Defined list box. You may also want to modify an existing exception that is already in the Exceptions Defined list box to accommodate new data or measures.

To change an exception in your current report, you first need to display the Format Exceptions dialog box.

1. If it is not already displayed, click **Exceptions** from the **Format** menu.
   The Format Exceptions dialog box displays. The list of current exception captions displays in the Exceptions Defined list box.
2. Select the exception you want to change from the Exceptions Defined list.
   The current values for the exception display in the dialog box. The button text changes from Add to Change and is disabled. The Remove button is enabled.
3. Click the drop-down list under Measure if you want to change the measure on which you want to base your exception.

NOTE

Once you change any element of the exception, the Remove button is disabled and the Change button is enabled.

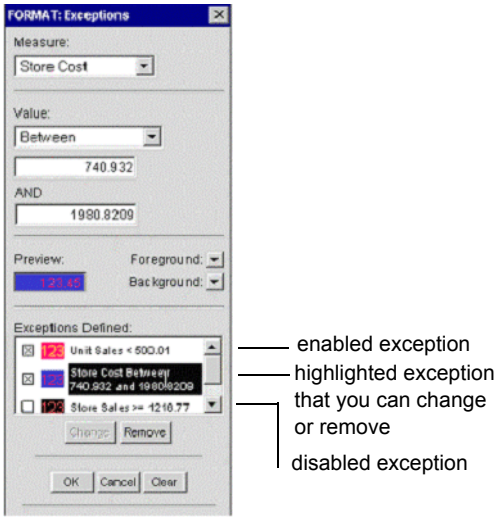
4. Select a new operator from the drop-down list under Value if you want to change the expression.
5. Select the foreground and background colors from the drop-down color box if you want to change the format.
6. When you have completed editing your exceptions, click **Change** to save the changes to the exception definition.

Removing exceptions

To remove an exception in your current report, you first need to display the Format Exceptions dialog box.

1. If it is not already displayed, click **Exceptions** from the **Format** menu.

   The Format: Exceptions dialog box displays. The list of current exceptions displays in the Exceptions Defined list box.



2. Click to highlight the exception you want to remove.
3. Click **Remove** to remove the exception from your report.

   The exception definition is removed from the list.

Exception evaluation order

The order in which exceptions are evaluated is important to understand when planning your query. The evaluation of a value stops after a defined exception is triggered. The application then evaluates the next value, starting with the first exception. This section discusses how the order of exception definitions within a measure is set.

- The order of exceptions that are evaluated for a measure match their order from top down in the list box.
- When the dialog box opens and contains previously defined exceptions, the list items are grouped by their measure parent in the order of their creation.
- When you add an exception, it goes to the end of the list box.
- When you remove an exception all exceptions for the same measure move

up in order.

- When you disable an exception, the order does not change but the exception is not evaluated when triggering the exceptions.

  - Similar to the removal command -- when an exception is enabled, its order hasn't changed and the evaluation continues in the same order.

Troubleshooting advice

Since you input values on a client machine, some limitations may be imposed due to the scripting language and incompatibilities with the keyboard configuration. Thus some characters that are provided by the browser event object may not be what the script expects.

Unicode characters

The scripting language Regular Expression manages the character patterns but it is not able to manage Unicode characters.

Making multiple selections

A multiple selection is whenever you select more than one element at the same time on your report.

There are four types of selection:

Selection type	Description
single	includes one type of selectable element at a time (cell, member label or dimension label)
fragmented	includes one type of selectable element at a time (cell, member label or dimension label) you select elements that are not part of the same dimension.
contiguous	includes one type of selectable element at a time (cell, member label or dimension label)
heterogeneous	includes a mix of different types of selectable elements (cell, member label or dimension label)

You can select:

What	What happens
value cells or cell element selection	The cell style changes and the first cell you click sets the column selection. That column is used if you apply a filter. The selected column displays a border around it.
member label cells	The member style changes when you select a member cell.
dimension label cells:	The dimension label style changes

NOTE

You can edit the class in the style sheet (CSS file) to change the highlight format.

When you make a multiple selection the cells are highlighted and a cell state becomes apparent.

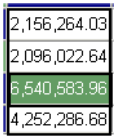
The different states are:

Multi selection state	Description
anchor	represents the last element selected except in the case of a contiguous selection
focus	represents the last element you click
selection	includes the anchor, the focus and all the elements that you select, except when you use the Control key to unselect an element

What can you select

Cell elements

When you select a value cell in a table or cross tab, you are making a cell selection.

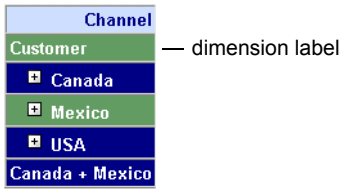


Member labels

When you select a member label you are making a member label selection.

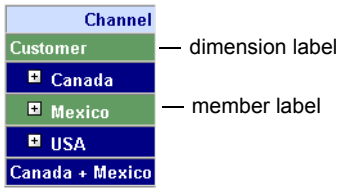
Dimension labels

When you select a Dimension label, you are making a dimension label selection.



Selecting more than one type of element at a time

When you select any combination of elements, you are making a multiple selection on different label or cell types.



What are the different types of selection you can make

There are four types of selection possible:

- Single selection
- Fragmented selection
- Contiguous selection
- Heterogeneous selections

The following section details how to make the selections and the type of behavior you can expect when you follow the procedures for selecting cells, member and dimension labels.

Making a single selection

To make a single selection:

1. Click one element on the report grid.

   The one cell becomes the anchor, focus, and selection.

   If you select another element, the current selection loses its highlighted state and returns to the default display.

   If you hold the Control key, you are making a multiple selection.

Making a fragmented selection

You can make fragmented label selections across elements on different axes, and across nested dimensions.

If you mix the type of labels in your selection this is considered a heterogeneous selection.

To make a fragmented selection:

1. Click one element on the report grid.
2. Hold the Control key and click another element.

   The selected elements highlight.

   The anchor and the focus are the last elements you click.

This is the last element clicked and becomes the anchor and focus

Channel / Customer	Catalog	Online	Store	Avg Channels
Canada	2,156,264.03	-	-	2,156,264.03
Mexico	2,096,022.64	4,073,629.17	3,421,014.00	3,196,888.61
USA	6,540,583.96	6,604,973.70	10,443,954.04	7,863,170.57
Canada + Mexico	4,252,286.68	4,073,629.17	3,421,014.00	3,915,643.28

Each time you click another element while pressing the Control key, the anchor and the focus switch to the last element you click. The elements you previously selected become part of the selection.

3. Press the Control key then click a selected (highlighted) element to unselect and return the element to the default style.

This element is unselected but maintains the anchor and focus

Channel / Customer	Catalog	Online	Store	Avg Channels
Canada	2,156,264.03	-	-	2,156,264.03
Mexico	2,096,022.64	4,073,629.17	3,421,014.00	3,196,888.61
USA	6,540,583.96	6,604,973.70	10,443,954.04	7,863,170.57
Canada + Mexico	4,252,286.68	4,073,629.17	3,421,014.00	3,915,643.28

Even though the last element clicked is unselected, the element remains the anchor and the focus.

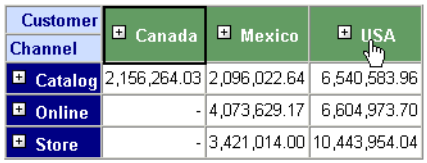
Making a contiguous selection

A contiguous selection only applies to elements of the same type, such as member labels or, dimension labels or, cells on the same axis or dimension. You cannot mix different types of elements for contiguous selections.

To make a contiguous selection:

1. Click an element while pressing the Shift key.

   The element you click becomes the focus. If an explicit anchor is not present in the selection, a default anchor is assumed and enlarges the selection. The anchor remains on the original element until you change it. The contiguous selection includes the anchor, the focus and all the elements in between.

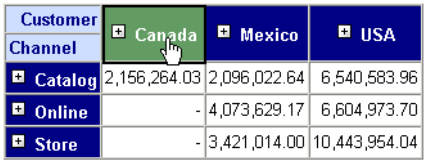


Customer / Channel	Canada	Mexico	USA
Catalog	2,156,264.03	2,096,022.64	6,540,583.96
Online	-	4,073,629.17	6,604,973.70
Store	-	3,421,014.00	10,443,954.04

Shift then click USA to make a contiguous selection on USA. The anchor is Canada and is outlined, the focus is USA. All elements in between the selection are highlighted.

2. Click another element of the same type while continuing to press the shift key.

   The other elements return to the default format.



Customer / Channel	Canada	Mexico	USA
Catalog	2,156,264.03	2,096,022.64	6,540,583.96
Online	-	4,073,629.17	6,604,973.70
Store	-	3,421,014.00	10,443,954.04

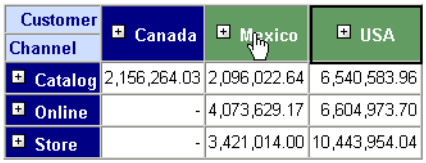
Shift then click Canada, unselects the other member labels because Canada remains the anchor, the focus, and the selection.

   If you select an element of a different type, nothing is selected. A message appears in the status bar "Invalid selection".

Changing the anchor and focus

You can change the anchor and the focus. To do this:

1. Release the shift key and click the new anchor and focus.
2. Shift then click your new selection to see that the anchor and focus changed.



Customer / Channel	Canada	Mexico	USA
Catalog	2,156,264.03	2,096,022.64	6,540,583.96
Online	-	4,073,629.17	6,604,973.70
Store	-	3,421,014.00	10,443,954.04

By clicking USA, then pressing shift and clicking Mexico, USA becomes the anchor and Mexico is the focus. Canada, is no longer the anchor or focus, and unselects.

Making a contiguous multiple selection with an explicit anchor

If the anchor already exists from a current selection, the focus is what you click.

Labels

When you make a label selection:

- If an anchor already exists when you select labels, the selection includes all the labels between and including the anchor and the focus.
- If any labels are outside of this group selection (either single or fragmented selections) they are no longer selected.
- The focus becomes the element you select and the selection includes the anchor, the focus and every element in between.

NOTE

An explicit anchor must be the same element type as the focus. If not, you see the Invalid Selection message in the status bar.

Cells

When you make a cell selection:

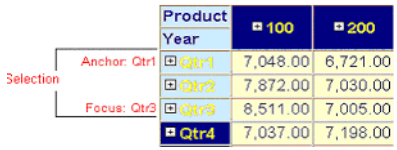
- if the focus is on the same row or the same column as the anchor, all cells between and including the anchor and the focus are also selected
- if the focus is on a different row or column, the block of cells between the anchor and the focus are selected, any cells outside of this selection (single or fragmented selections) are no longer selected.

Making a contiguous multiple selections without an explicit anchor

Labels

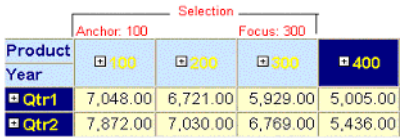
When you make a contiguous selection on the row axis:

- the anchor is the first member label at the top
- the focus is the element being clicked
- the selection is the anchor, the focus and every element in between.



When you make a contiguous selection on the column axis:

- the anchor is the first member label to the left
- the focus is the element being clicked
- the selection is the anchor, the focus and all the elements in between.



In an axis with nested dimensions:

- the anchor is the first label at the top or the left of that dimension's nested group

Cells

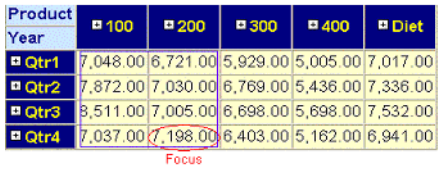
When no anchor in a contiguous cell selection exists:

- the anchor becomes the top left cell
- the focus is the cell you click while you press the shift key.
- the selection becomes all the cells in that block

EXAMPLE

Contiguous cell selection

You press the shift key while you click the cell 7,198.00. Since there is no implicit anchor, the top left cell becomes the anchor 7,048.00. The selection is the block of cells between the anchor and the focus.



Troubleshooting advice

Please make note of these warnings on special or illogical behavior.

- If you make a selection and then swap axes, your selections are lost when the report refreshes. The selections do not have an impact on the swap axes.
- If you click the drill icon after making a multiple selection, the drill operation takes priority and your previous selections are lost.
- If you happen to move the label while making your selections, the move operation takes priority and your selections are lost (even if you have pressed the Control or Shift keys)
- If you double-click on a dimension label in the report, the Member Select dialog box appears in the left column of the report window. You can also open the Member Select dialog box from the Query Panel.
- If you run a query, your selections are lost when the report refreshes.

Undoing selections

▶ Undoing a selection without pressing any key

The table below describes what occurs when you unselect currently selected selections.

If your selection is on	Then	Result
on a single element	click the element	selection does not change
on a single element	press the Control key and click the element	selection is unselected
multiple elements	click on an unselected element	your multiple selections are lost and the new element you click becomes the single selection
multiple elements	click outside the select area, such as outside the report	your multiple selections are lost

Undoing a selection while pressing the Control key:

The table below describes what occurs depending on the type of selection and how to undo your selection:

If your selection is on	Then	Result
on a single element	press the Control key and click the selected element	element becomes the anchor and the focus but is unselected
multiple elements (fragmented, contiguous,or heterogeneous)	click a selected element while pressing the Control key	only that selected element is unselected Anchor and focus changes to that element
multiple elements	click outside or on a non-selectable element	your multiple selections are lost

Differences Among OLAP Servers

chapter 6

Overview

This section contains information about differences among the three OLAP servers supported by WebIntelligence. The information is presented here for users to know more about these servers.

Server models

WebIntelligence attempts to provide a uniform interface across each of the OLAP servers to which you can connect. However, because of differences in the way that each of the vendors has implemented their servers, some differences in the interface remain.

Microsoft SQL Server Analysis Services and SAP BW servers

Building a query is dimension-centric on MDX servers, in particular a Microsoft SQL Server Analysis Services or SAP BW server. Ranking, value filtering, and ordering are applied to the dimension, which is then used on any axis in the report.

Zero suppression is applied to either the row axis or the column axis.

Microsoft SQL Server Analysis Services and SAP BW servers have "measures" separate from dimensions. Instead, measures are a collection of members within a single level.

Essbase/DB2 OLAP servers

Building a query is report-centric on an Essbase/DB2 OLAP server. Ranking, value filtering, and ordering are applied only to dimensions on the row axis. Empty cell suppression is applied to only the row axis.

Dimensions on the filter axis can only have a single member. Measures are just another dimension, which can have a full dimensional hierarchy.

WebIntelligence for OLAP data sources requires that at least one dimension be of type "Accounts."

Terminology

Each vendor has its own terminology, which may vary from the terminology used by WebIntelligence. The table below shows the relationship between the terminology used by WebIntelligence and by the different OLAP vendors.

Term used by:				
WebIntelligence for OLAP data sources	**Analysis Services**	**Essbase/DB2 OLAP**	**SAP BW**	**Definition of term**
Rows or Row Axis	Row Axis	Row Axis	Row Axis	Dimensions down the left side of the report.
Columns or Column Axis	Column Axis	Column Axis	Column Axis	Dimensions along the top of the report.
Filters or Filter Axis	Filter Axis	Page Axis	Filter Axis	All dimensions not on rows or columns are on the filter axis. The members, levels, and so on that are permitted for dimensions on the filter axis depend on the OLAP Server.
Not Applicable	Page Axis	Not Applicable	Not Applicable	An additional axis for reports available only for Analysis Services. This is not available for WebIntelligence for OLAP data sources.

Term used by:				
WebIntelligence for OLAP data sources	**Analysis Services**	**Essbase/DB2 OLAP**	**SAP BW**	**Definition of term**
Level	Level	Generation WebIntelligence does not have an equivalent to levels in Essbase. WebIntelligence counts levels from the top to the bottom. Essbase counts levels from the bottom to the top.	Level	The position in the hierarchy of the members for a dimension. WebIntelligence counts levels from 1, starting at the top of the dimension.
Database	Database	Application	Database	A collection of cubes.
Cube	Cube	Database	Cube	A structure that stores business data in a multi-dimensional format that makes it easy to analyze. An OLAP cube is roughly the same as a database in relational terminology.

Term used by:				
WebIntelligence for OLAP data sources	**Analysis Services**	**Essbase/DB2 OLAP**	**SAP BW**	**Definition of term**
Measures	Measures	Dimension of type "Accounts"	Key figures	Corresponds to the BusinessObjects full client and WebIntelligence concept of measures.
Dimension	Dimension	Dimension	Characteristic	Classification that groups related business data, such as product lines, or sales regions, or time.
Member	Member	Member	Characteristic value	A value of a dimension.

Moving and swapping dimensions

This table shows the differences between the OLAP servers when moving or swapping dimensions:

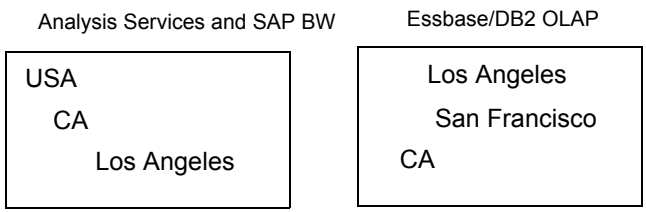
Server	Behavior
Analysis Services	Moving a dimension to any axis does not affect ranking, value filtering, or ordering.
SAP BW	When a dimension is moved to the filter axis, it is set to the default member, which removes all the other members from the dimension.
Essbase/DB2 OLAP	If the innermost dimension on the row axis is changed, then ranking, value filtering, and ordering are cleared. If a dimension on the row or column axis is moved to the filter axis, it is set to the default member. If the dimension has only a single member selected then it remains unchanged.

Drilling

On any of the servers, if a change is made to the members of a dimension, then all drilling for all dimensions in the report is reset. On an Essbase/DB2 OLAP server, moving or swapping dimensions also resets all drilling for the report.

Location of parent/child and totals

On an Analysis Services or SAP BW server, parent members appear before children in the report. On an Essbase/DB2 OLAP server, it's the reverse. Child members are indented to the right of their parent member, unless indenting is turned off.



This also has an impact on drilling. When you drill on a report on an Analysis Services or SAP BW server, the children expand below the parent. When you drill on a report on an Essbase/DB2 OLAP server, the children expand above the parent.

Looked at from another perspective, the grand total for a report on an Analysis Services or SAP BW server is in the top left of the report; on an Essbase/DB2 OLAP server, it is in the bottom left.

Feature differences

The table below shows the differences in the features on each OLAP server.

Feature	Analysis Services	Essbase/DB2 OLAP	SAP BW
Ranking	Can rank dimensions on row axis, then move them to the column axis or filter axis.	Can only rank row dimensions for a column in the report.	Can only rank row dimensions and can rank only for the default member of the column dimension.
Running the exported file definition of OLAP reports created using BusinessQuery for Excel	Yes	No	No
Value Filtering	Can filter dimensions on the row axis, then move to the column axis or filter axis. Can filter by a number or a percentage.	Can filter only row dimensions for a column in the report. Can filter only by a number.	Can apply a value filter only on row dimensions. It applies only for the default member of the column dimension. Can filter only by a number.
Sorting	Can sort by the database default, alphabetically, and sort by value for a column in the report by number or percentage.	Can sort by value for a column in the report by number only.	Can sort by value only on row dimensions. It applies only for the default member of the column dimension. Can sort only by a number.

Feature	Analysis Services	Essbase/DB2 OLAP	SAP BW
Moving Dimension	Can move a dimension to any axis without change.	Moving a dimension may clear ranking, value filtering, ordering, or drilling, depending on the report axis and report options.	Can move a dimension to any axis without change, except to the filter axis, which sets the dimension to the default member.
Measures	Separate from other dimensions, selected separately in the Report Creation Wizard.	A measure is a dimension.	Separate from other dimensions. Selected separately in the Report Creation Wizard.
Empty Cell Suppression	Rows and columns.	Rows only.	Rows and columns.

WebIntelligence OLAP features

Depending on the OLAP provider you are using, you have access to the features available in WebIntelligence for OLAP data sources. The particular workflows to use the feature may vary depending on the OLAP provider. The individual differences are noted within the procedures. In addition, an overview is provided below.

The table below offers an at-a-glance look at the features that are available and which OLAP provider put them to use.

Feature	Microsoft SQL Server Analysis Services	Essbase/DB2	SAP/BW
Multiple hierarchies for a dimension Example: Time dimension Hierarchy versions: Fiscal, Calendar	Yes	No	Yes
Session scoped or Ad-hoc calculations	Yes	Yes	No
Row based calculations	Yes	Yes	No
Exception highlighting	Yes	Yes	No
Multiple selection allowed	Yes	Yes	Yes

Index

D

E

F

G

H

Q

R